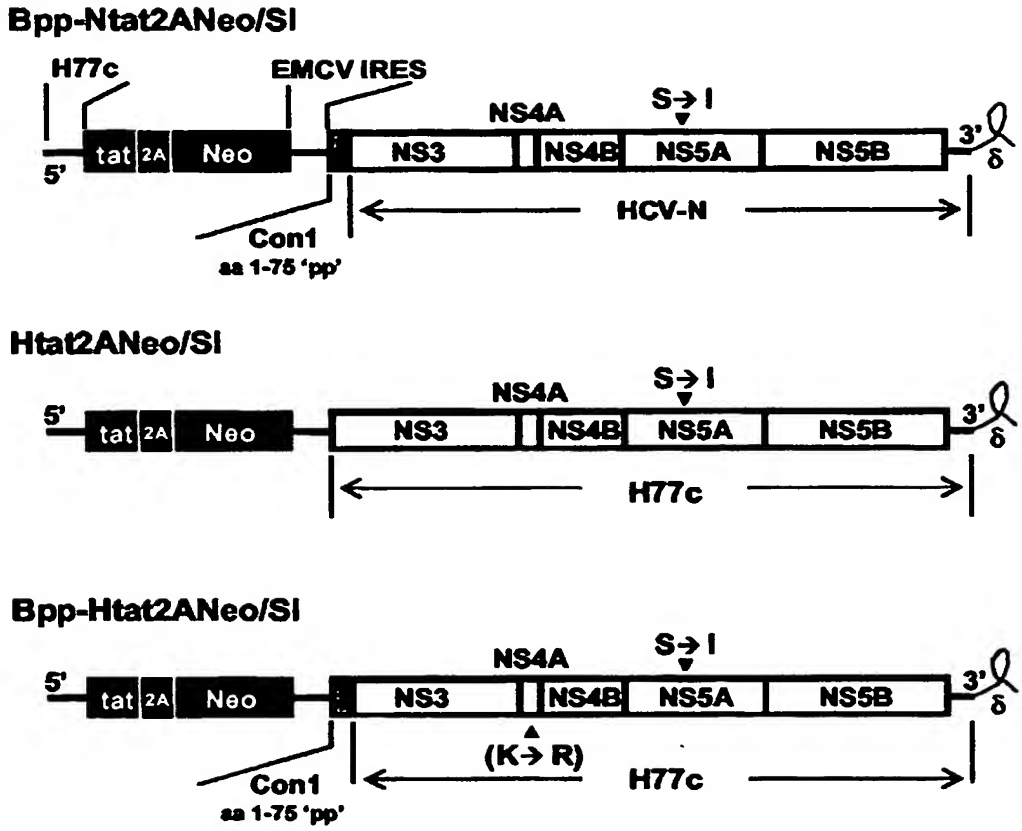
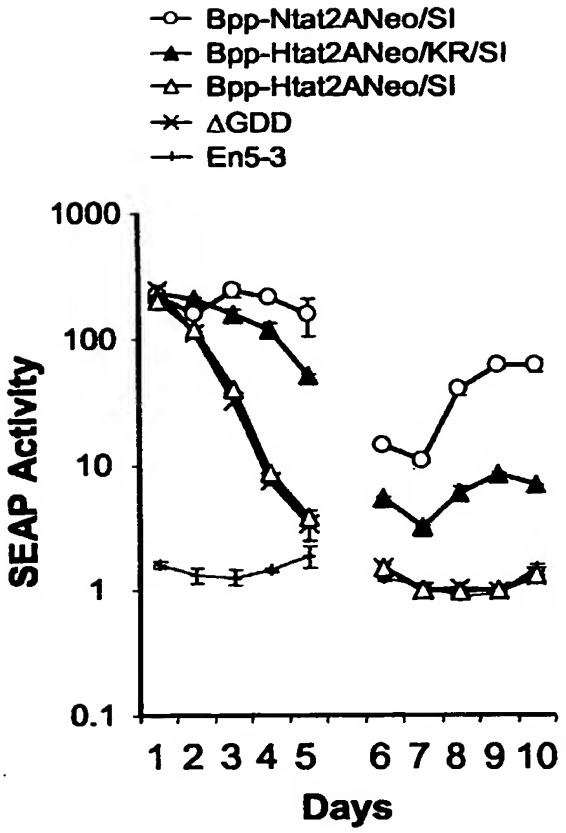
Fig. 1



BEST AVAILABLE COPY

Fig. 2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Bpp-Htat2ANeo/KR/SI
Bpp-Htat2ANeo/SI
ΔGDD
En5-3
1000
100
10
1
0.1
SEAP Activity
1 2 3 4 5 6 7 8 9 10
Days

Fig. 3A

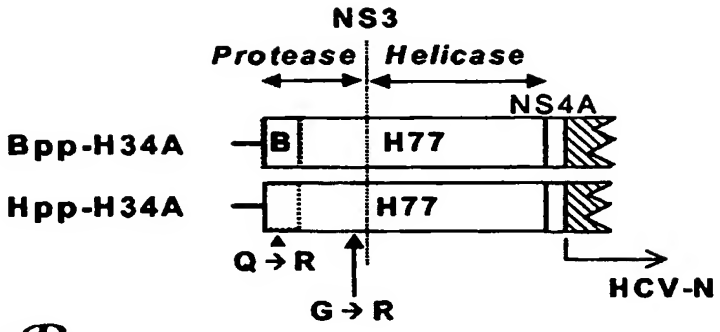
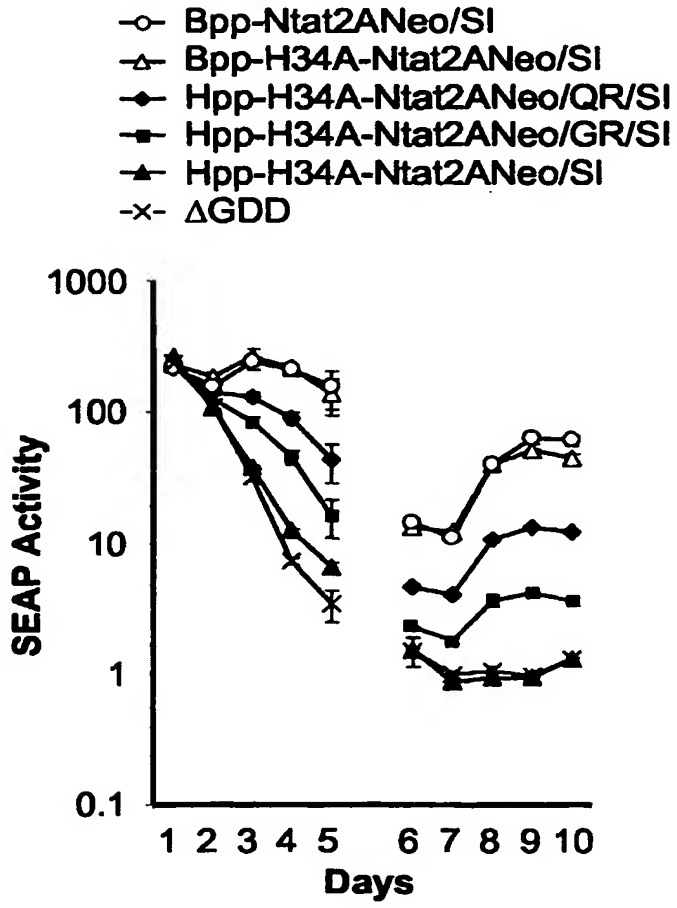

NS3
Protease
Helicase
NS4A
Bpp-H34A
B
H77
Hpp-H34A
H77
Q→R
G→R
HCV-N

Fig. 3B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Hpp-H34A-Ntat2ANeo/GR/SI
Hpp-H34A-Ntat2ANeo/SI
ΔGDD
1000
100
10
1
0.1
SEAP Activity
1 2 3 4 5 6 7 8 9 10
Days

Fig. 4A

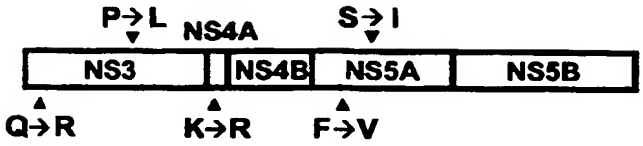


Fig. 4B

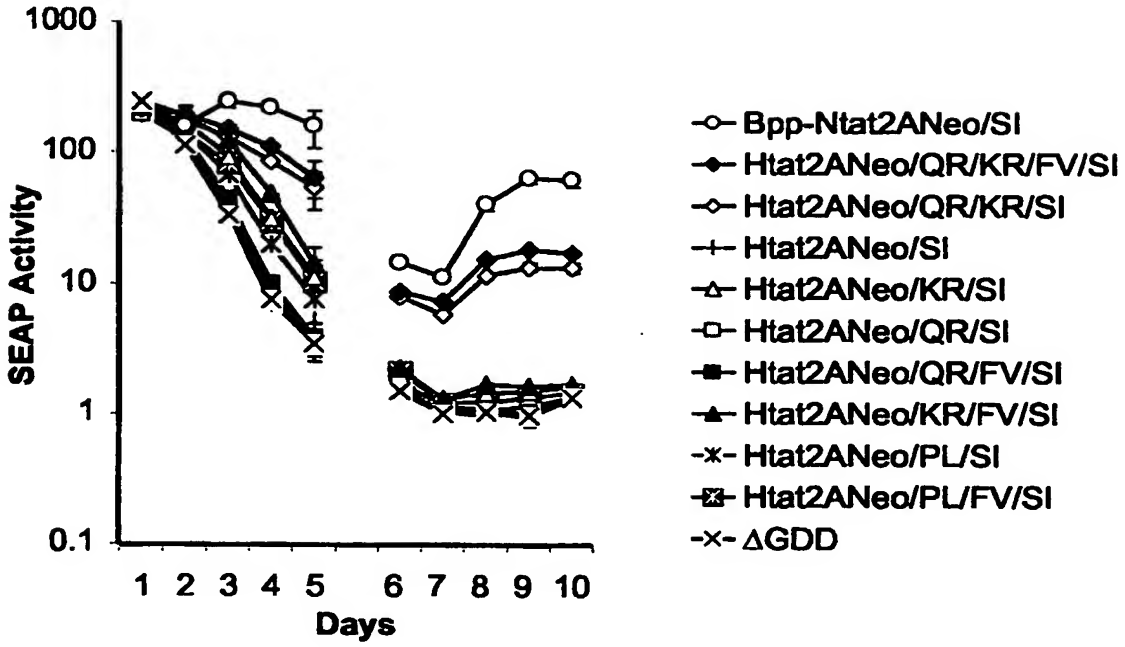


Fig. 4C

	NS Substitutions				
SEAP	3p	3h	4A	5A	5A
-					SI
-			KR		SI
-	QR				SI
+++	QR		KR		SI
-	QR			FV	SI
+			KR	FV	SI
+++	QR		KR	FV	SI
+		PL			SI
+		PL		FV	SI

Fig. 5

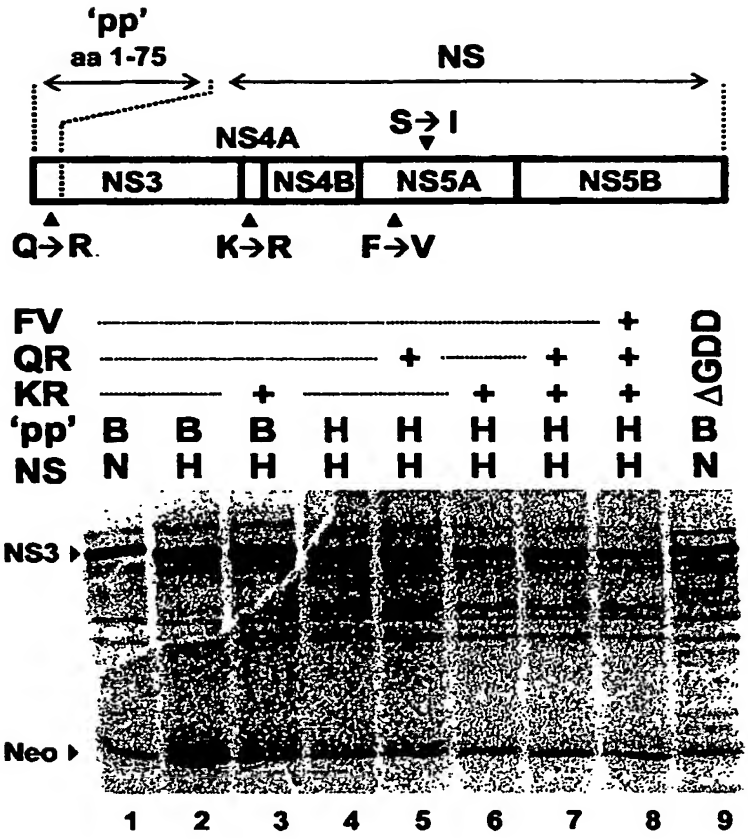

'pp'
aa 1-75
NS
S→I
NS4A
NS3
NS4B
NS5A
NS5B
Q→R
K→R
F→V
FV
QR
KR
'pp'
NS
ΔGDD
B B B H H H H H B
N H H H H H H H N
NS3
Neo
1 2 3 4 5 6 7 8 9

Fig. 6A

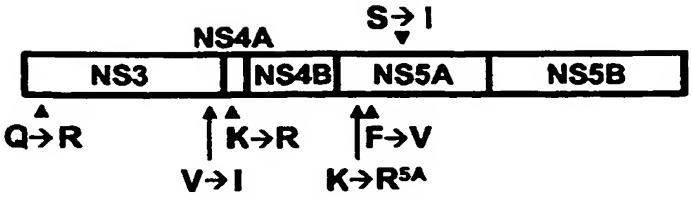
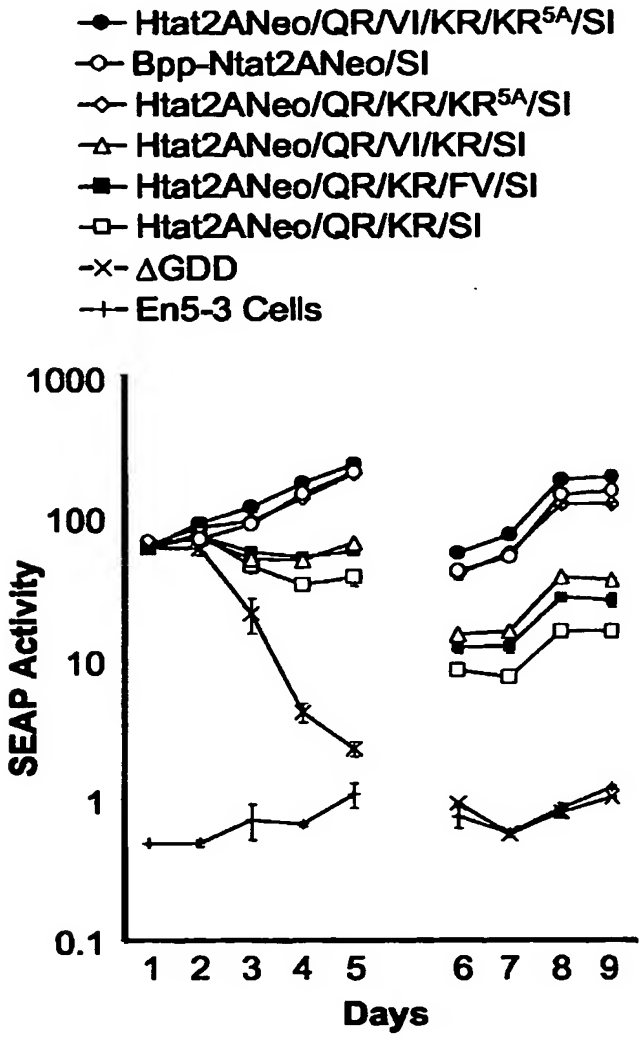

S→I
NS4A
NS3
NS4B
NS5A
NS5B
Q→R
K→R
F→V
V→I
K→R5A

Fig. 6B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Htat2ANeo/QR/VI/KR/SI
Htat2ANeo/QR/KR/FV/SI
Htat2ANeo/QR/KR/SI
ΔGDD
En5-3 Cells
1000
100
10
1
0.1
SEAP Activity
1 2 3 4 5 6 7 8 9
Days

Fig. 7

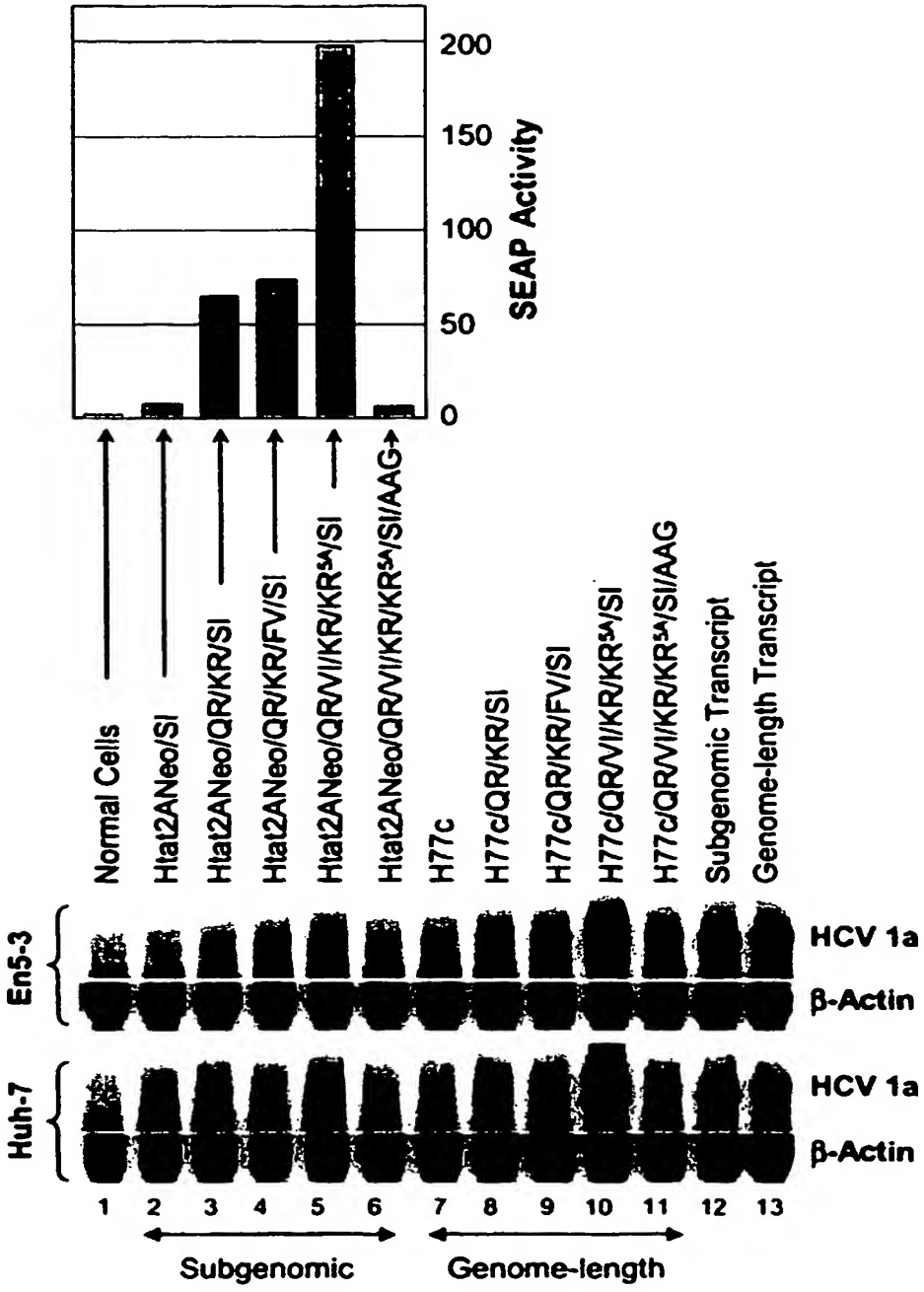
200
150
100
50
0
SEAP Activity
Normal Cells
Htat2ANeo/SI
Htat2ANeo/QR/KR/SI
Htat2ANeo/QR/KR/FV/SI
Htat2ANeo/QR/VI/KR/KR5A/SI
Htat2ANeo/QR/VI/KR/KR5A/SI/AAG
H77c
H77c/QR/KR/SI
H77c/QR/KR/FV/SI
H77c/QR/VI/KR/KR5A/SI
H77c/QR/VI/KR/KR5A/SI/AAG
Subgenomic Transcript
Genome-length Transcript
En5-3
HCV 1a
β-Actin
Huh-7
HCV 1a
β-Actin
1 2 3 4 5 6 7 8 9 10 11 12 13
Subgenomic
Genome-length

Fig. 8A

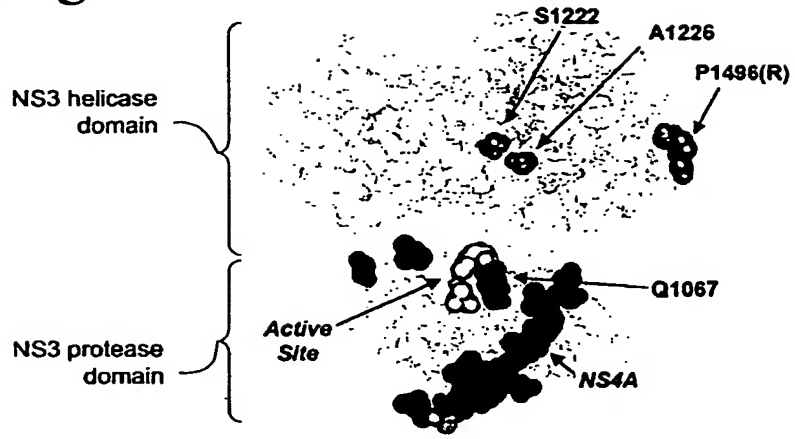

Fig. 8B

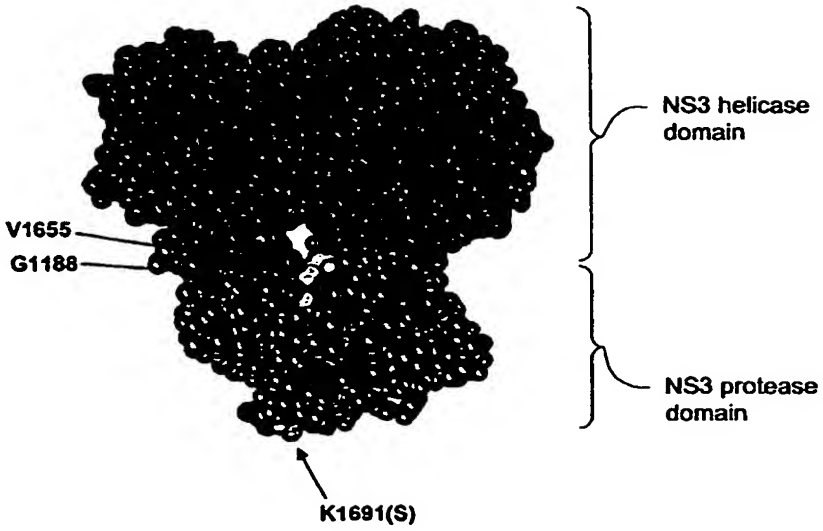

Fig. 8C

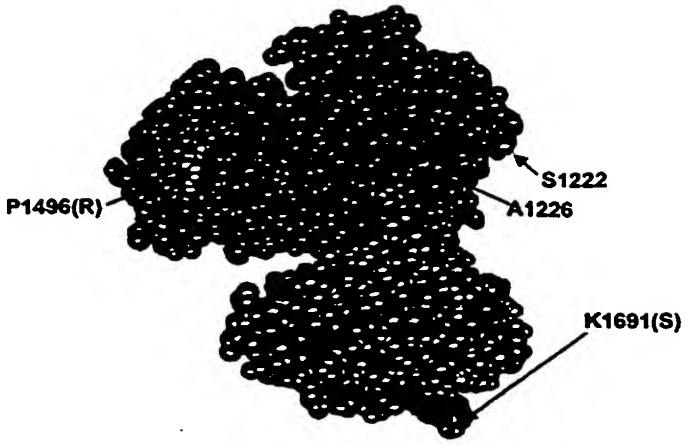

Fig. 9

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   1 ACCTGGAAAA ACATGGAGCA ATCACAAGTA GCAATACAGC AGCTACCAAT GCTGCTTGTG CCTGGCTAGA AGCACAAGAG  80
  81 GAGGAGGAGG TGGGTTTTCC AGTCACACCT CAGGTACCTT TAAGACCAAT GACTTACAAG GCAGCTGTAG ATCTTAGCCA 160
 161 CTTTTTAAAA GAAAGGGGGG GACTGGAAGG GCTAATTCAC TCCCAAAGAA GACAAGATAT CCTTGATCTG TGGATCTACC 240
 241 ACACACAAGG CTACTTCCCT GATTAGCAGA ACTACACACC AGGGCCAGGG GTCAGATATC CACTGACCTT TGGATGGTGC 320
 321 TACAAGCTAG TACCAGTTGA GCCAGATAAG ATAGAAGAGG CCAATAAAGG AGAGAACACC AGCTTGTTAC ACCCTGTGAG 400
 401 CCTGCATGGG ATGGATGACC CGGAGAGAGA AGTGTTAGAG TGGAGGTTTG ACAGCCGCCT AGCATTTCAT CACGTGGCCC 480
 481 GAGAGCTGCA TCCGGAGTAC TTCAAGAACT GCTGACATCG AGCTTGCTAC AAGGGACTTT CCGCTGGGGA CTTTCCAGGG 560
 561 AGGCGTGGCC TGGGCGGGAC TGGGGAGTGG CGAGCCCTCA GATCCTGCAT ATAAGCAGCT GCTTTTTGCC TGTACTGGGT 640
 641 CTCTCTGGTT AGACCAGATC TGAGCCTGGG AGCTCTCTGG CTAACTAGGG AACCCACTGC TTAAGCCTCA ATAaagcttC 720
 721 TGCATGCTGC TGCTGCTGCT GCTGCTGGGC CTGAGGCTAC AGCTCTCCCT GGGCATCATC CCAGTTGAGG AGGAGAACCC 800
 801 GGACTTCTGG AACCGCGAGG CAGCCGAGGC CCTGGGTGCC GCCAAGAAGC TGCAGCCTGC ACAGACAGCC GCCAAGAACC 880
 881 TCATCATCTT CCTGGGCGAT GGGATGGGGG TGTCTACGGT GACAGCTGCC AGGATCCTAA AAGGGCAGAA GAAGGACAAA 960
 961 CTGGGGCCTG AGATACCCCT GGCCATGGAC CGCTTCCCAT ATGTGGCTCT GTCCAAGACA TACAATGTAG ACAAACATGT 1040
1041 GCCAGACAGT GGAGCCACAG CCACGGCCTA CCTGTGCGGG GTCAAGGGCA ACTTCCAGAC CATTGGCTTG AGTGCAGCCG 1120
1121 CCCGCTTTAA CCAGTGCAAC ACGACACGCG GCAACGAGGT CATCTCCGTG ATGAATCGGG CCAAGAAAGC AGGGAAGTCA 1200
1201 GTGGGAGTGG TAACCACCAC ACGAGTGCAG CACGCCTCGC CAGCCGGCAC CTACGCCCAC ACGGTGAACC GCAACTGGTA 1280
1281 CTCGGACGCC GACGTGCCTG CCTCGGCCCG CCAGGAGGGG TGCCAGGACA TCGCTACGCA GCTCATCTCC AACATGGACA 1360
1361 TTGACGTGAT CCTAGGTGGA GGCCGAAAGT ACATGTTTCC CATGGGAACC CCAGACCCTG AGTACCCAGA TGACTACAGC 1440
1441 CAAGGTGGGA CCAGGCTGGA CGGGAAGAAT CTGGTGCAGG AATGGCTGGC GAAGCGCCAG GGTGCCCGGT ATGTGTGGAA 1520
1521 CCGCACTGAG CTCATGCAGG CTTCCCTGGA CCCGTCTGTG ACCCATCTCA TGGGTCTCTT TGAGCCTGGA GACATGAAAT 1600
1601 ACGAGATCCA CCGAGACTCC ACACTGGACC CCTCCCTGAT GGAGATGACA GAGGCTGCCC TGCGCCTGCT GAGCAGGAAC 1680
1681 CCCCGCGGCT TCTTCCTCTT CGTGGAGGGT GGTCGCATCG ACCATGGTCA TCATGAAAGC AGGGCTTACC GGGCACTGAC 1760
1761 TGAGACGATC ATGTTCGACG ACGCCATTGA GAGGGCGGGC CAGCTCACCA GCGAGGAGGA CACGCTGAGC CTCGTCACTG 1840
1841 CCGACCACTC CCACGTCTTC TCCTTCGGAG GCTACCCCCT GCGAGGGAGC TCCATCTTCG GGCTGGCCCC TGGCAAGGCC 1920
1921 CGGGACAGGA AGGCCTACAC GGTCCTCCTA TACGGAAACG GTCCAGGCTA TGTGCTCAAG GACGGCGCCC GGCCGGATGT 2000
2001 TACCGAGAGC GAGAGCGGGA GCCCCGAGTA TCGGCAGCAG TCAGCAGTGC CCCTGGACGA AGAGACCCAC GCAGGCGAGG 2080
2081 ACGTGGCGGT GTTCGCGCGC GGCCCGCAGG CGCACCTGGT TCACGGCGTG CAGGAGCAGA CCTTCATAGC GCACGTCATG 2160
2161 GCCTTCGCCG CCTGCCTGGA GCCCTACACC GCCTGCGACC TGGCGCCCCC CGCCGGCACC ACCGACGCCG CGCACCCGG  2239
                    10        20        30        40        50        60        70        80
```

Fig. 10A

```
                 |  10        |  20        |  30        |  40        |  50        |  60        |  70        |  80        |  90        |  100
   1 TGAAGGTTGG GGTAAACACT CCGGCCTCTT AAGCCATTTC CTGTTTTTTT TTTTTTTTTT TCTTTTTTTT TTTCTTTCCT TTCCTTCTTT  100
 101 TTTTCCTTTC TTTTTCCCTT CTTTAATGGT GGCTCCATCT TAGCCCTAGT CACGGCTAGC TGTGAAAGGT CCGTGAGCCG CATGACTGCA GAGAGTGCTG  200
 201 ATACTGGCCT CTCTGCAGAT CATGT
```

Fig. 10B

```
                 |  10        |  20        |  30        |  40        |  50        |  60        |  70        |  80        |  90        |  100
   1 GCCAGCCCCC TGATGGGGGC GACACTCCAC CATGAATCAC TCCCCTGTGA GGAACTACTG TCTTCACGCA GAAAGCGTCT AGCCATGGCG TTAGTATGAG  100
 101 TGTCGTGCAG CCTCCAGGAC CCCCCCTCCC GGGAGAGCCA TAGTGGTCTG CGGAACCGGT GAGTACACCG GAATTGCCAG GACGACCGGG TCCTTCTTG  200
 201 GATAAACCCG CTCAATGCCT GGAGATTTGG GCGTGCCCCC GCAAGACTGC TAGCCGAGTA GTGTTGGGTC GCGAAAGGCC TTGTGGTACT GCCTGATAGG  300
 301 GTGCTTGCGA GTGCCCCGGG AGGTCTCGTA GACCGTGCAC C
```

Fig. 11A-1

```
                 |  10        |  20        |  30        |  40        |  50        |  60        |  70        |  80        |  90        |  100
   1 GCCAGCCCCC TGATGGGGGC GACACTCCAC CATGAATCAC TCCCCTGTGA GGAACTACTG TCTTCACGCA GAAAGCGTCT AGCCATGGCG TTAGTATGAG 100
 101 TGTCGTGCAG CCTCCAGGAC CCCCCCTCCC GGGAGAGCCA TAGTGGTCTG TAGCCGAGTA GTGTTGGGTC GCGAAAGGCC TTGTGGTACT GCCTGATAGG 200
 201 GATAAACCCG CTCAATGCCT GGAGATTTGG GCGTGCCCCC GCAAGACTGC TAGCCGAGTA GTGTTGGGTC GCGAAAGGCC TTGTGGTACT GCCTGATAGG 300
 301 GTGCTTGCGA GTGCCCCGGG AGGTCTCGTA GACCGTGCAC CATGAGCACG AATCCTAAAC CTCAAAGAAA AACCAAACGT AACACCAACC GTCGCCCACA 400
 401 GGACGTCAAG TTCCCGGGTG GCGGTCAGAT CGTTGGTGGA GTTTACTTGT TGCCGCGCAG GGGCCCTAGA TTGGGTGTGC GCGCGACGAG GAAGACTTCC 500
 501 GAGCGGTCGC AACCTCGAGG TAGACGTCAG CCTATCCCCA AGGCACGTCG GCCCGAGGGC AGGACCTGGG CTCAGCCCGG GTACCCTTGG CCCCTCTATG 600
 601 GCAATGAGGG TTGCGGGTGG GCGGGATGGC TCCTGTCTCC CCGTGGCTCT CGGCCTAGCT GGGGCCCCAC AGACCCCCGG CGTAGGTCGC GCAATTTGGG 700
 701 TAAGGTCATC GATACCCTTA CGTGCGGCTT CGCCGACCTC ATGGGGTACA TACCGCTCGT CGGCGCCCCT CTTGGAGGCG CTGCCAGGGC CCTGGCGCAT 800
 801 GGCGTCCGGG TTCTGGAAGA CGGCGTGAAC TATGCAACAG GGAACCTTCC TGGTTGCTCT TTCTCTATCT TCCTTCTGGC CCTGCTCTCT TGCCTGACTG 900
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1001 CCTGCACACT CCGGGGTGTG TCCCTTGCGT TCGCGAGGGT AACGCCTCGA GGTGTTGGGT GGCGGTGACC CCCACGGTGG CCACCAGGGA CGGCAAACTC 1100
1101 CCCACAACGC AGCTTCGACG TCATATCGAT CTGCTTGTCG GGAGCGCCAC CCTCTGCTCG GCCCTCTACG TGGGGGACCT GTGCGGGTCT GTCTTTCTTG 1200
1201 TTGGTCAACT GTTTACCTTC TCTCCCAGGC GCCACTGGAC GACGCAAGAC TGCAATTGTT CTATCTATCC CGGCCATATA ACGGGTCATC GCATGGCATG 1300
1301 GGATATGATG ATGAACTGGT CCCCTACGGC AGCGTTGGTG GTAGCTCAGC TGCTCCGGAT CCCACAAGCC ATCATGGACA TGATCGCTGG TGCTCACTGG 1400
1401 GGAGTCCTGG CGGGCATAGC GTATTTCTCC ATGGTGGGGA ACTGGGCGAA GGTCCTGGTA ACACCAGGCG CCAAGCAGAA CATCCAACTG ATTTGCCGG CGTCGACGCG GAACCCACG 1500
1501 TCACCGGGGG AAATGCCGGC CGCACCACGG CTGGGCTTGT TGGTCTCCTT ACACCAGGCG CCAAGCAGAA CATCCAACTG ATTTGCCGG CGTCGACGCG GAACCCACG 1600
1601 GCACATCAAT AGCACGGCCT TGAATTGCAA TGAAAGCCTT AACACCGGCT GGTTAGCAGG GCTCTTCTAT CAACACAAAT TCAACTCTTC AGGCTGTCCT 1700
1701 GAGAGGTTGG CCAGCTGCCG ACGCCTTACC GATTTTGCCC AGGGCTGGGG GGCCCGGTAT ATTGCTTCAC TCCCAGCCCC GTGGTGGTGG GAACGACCGA 1900
1801 GGCACTACCC TCCAAGACCT TGTGGCATTG TGCCCGCAAA GAGCGTGTGT TCGTCCTTAA CAACACCAGG CCACCGCTGG GCAATTGGTT CGGTTGTACC 2000
1901 CAGGTCGGGC GCGCCTACCT ACAGCTGGGG TGCAAATGAT ACGGATGTCT CATCGGAGGG GTGGGCAACA ACACCTTGCT CTGCCCCACT GATTGCTTCC 2100
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3101 GATCTGCGCG CTAGCGCGGA AGATAGCCGG AGGTCATTAC GTGCAAATGG CCATCATCAA GTTAGGGGCG CTTACTGGCA CCTATGTGTA TAACCATCTC 3200
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4001 CCAGAGCTTC CAGGTGGCCC ACCTGCATGC TCCCACCGGC AGCGGTAAGA GCACCAAGGT CCCGGCTGCG TACGCAGCCC AGGGCTACAA GGTGTTGGTG 4100
```

Fig. 11A-2

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4301 CACGGATGCC ACATCCATCT TGGGCATCGG CACTGTCCTT GACCAAGCAG AGACTGCGGG GGCGAGACTG GTTGTGCTCG CCACTGCTAC CCCTCCGGGC 4400
4401 TCCGTCACTG TGTCCCATCC TAACATCGAG GAGGTTGCTC TGTCCACCAC CGGAGAGATC CCCTTTTACG GCAAGGCTAT CCCCCTCGAG GTGATCAAGG 4500
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6001 TCTCGCCTGG AGCCCTTGTA GTCGGTGTGG TCTGCGCAGC AATACTGCGC CGGCACGTTG GCCCGGGCGA GGGGCAGTG CAATGGATGA ACCGGCTAAT 6100
6101 AGCCTTCGCC TCCCGGGGGA ACCATGTTTC CCCCACGCAC TACGTGCCGG AGAGCGATGC AGCCGCCCGC GTCACTGCCA TACTCAGCAG CCTCACTGTA 6200
6201 ACCCAGCTCC TGAGGCGACT GCATCAGTGG ATAAGCTCGG AGTGTACCAC TCCATGCTCC GGTTCCTGGC TAAGGGACAT CTGGGACTGG ATATGCGAGG 6300
6301 TGCTGAGCGA CTTTAAGACC TGGCTGAAAG CCAAGCTCAT GCCACAACTG CCTGGGATTC CCTTTGTGTC CTGCCAGCGC GGGTATAGGG GGGTCTGGCG 6400
6401 AGGAGACGGC ATTATGCACA CTCGCTGCCA CTGTGGAGCT GAGATCACTG GACATGTCAA AAACGGGACG ATGAGGATCG TCGGTCCTAG GACCTGCAGG 6500
6501 AACATGTGGA GTGGGACGTT CCCCATTAAC GCCTACACCA CGGGCCCCTG TACTCCCCTT CCTGCGCCGA ACTATAAGTT CGCGCTGTGG AGGGTGTCTG 6600
6601 CAGAGGAATA CGTGGAGATA AGGCGGGTGG GGGACTTCCA CTACGTATCG GGTATGACTA CTGACAATCT TAAATGCCCG TGCCAGATCC CATCGCCCGA 6700
6701 ATTTTTCACA GAATTGGACG GGGTGCGCCT ACACAGGTTT GCGCCCCCTT GCAAGCCCTT GCTGCGGGAG GAGGTATCAT TCAGAGTAGG ACTCCACGAG 6800
6801 TACCCGGTGG GGTCGCAATT ACCTTGCGAG CCCGAACCGG ACGTAGCCGT GTTGACGTCC ATGCTCACTG ATCCCTCCCA TATAACAGCA GAGGCGGCCG 6900
6901 GGAGAAGGTT GGCGAGAGGG TCACCCCCTT CTATGGCCAG CTCCTCGGCT AGCCAGCTGT CCGCTCCATC TCTCAAGGCA ACTTGCACCG CCAACCATGA 7000
7001 CTCCCCTGAC GCCGAGCTCA TAGAGGCTAA CCTCCTGTGG AGGCAGGAGA TGGGCGGCAA CATCACCAGG GTTGAGTCAG AGAACAAAGT GGTGATTCTG 7100
7101 GACTCCTTCG ATCCGCTTGT GGCAGAGGAG GATGAGCGGG AGGTCTCCGT CCTGACTACG AGTCTCGGAG ATTCTGCCGG GCCCTGCCCG 7200
7201 TCTGGGCGCG GCCGGACTAC AACCCCCCGC TAGTAGAGAC GTGGAAAAAG CCTGACTACG AACCACCTGT GGTCCATGGC TGCCCGCTAC CACCTCCACG 7300
7301 GTCCCCTCCT GTGCCTCCGC CTCGGAAAAA GCGTACGGTG GTCCTCACCG AATCAACCCT ATCTACTGCC TTGGCCGAGC TTGCCACCAA AAGTTTTGGC 7400
7401 AGCTCCTCAA CTTCCGGCAT TACGGGCGAC AATACGACAA CATCCTCTGA GCCCGCCCCT TCTGGCTGCC CCCCCGACTC CGACGTTGAG TCCTATTCTT 7500
7501 CCATGCCCCC CCTGGAGGGG GAGCCTGGGG ATCCGGATCT CAGCGACGGG TCATGGTCGA CGGTCAGTAG TGGGGCCGAC ACGGAAGATG TCGTGTGCTG 7600
7601 CTCAATGTCT TATTCCTGGA CAGGCGCACT CGTCACCCCG TGCGCTGCGG AAGAACAAAA ACTGCCCATC AACGCACTGA GCAACTCGTT GCTACGCCAT 7700
7701 CACAATCTGG TGTATTCCAC CACTTCACGC AGTGCTTGCC AAAGGCAGAA GAAAGTCACA TTTGACAGAC TGCAAGTTCT GGACAGCCAT TACCAGGACG 7800
7801 TGCTCAAGGA GGTCAAAGCA GCGGCGTCAA AAGTGAAGGC TAACTTGCTA TCCGTAGAGG AAGCTTGCAG CCTGACGCCC CCACATTCAG CAGGACAGCG 7900
7901 GTTTGGCTAT GGGGCAAAAG ACGTCCGTTG CCATGCCAGA AAGGCCGTAG CCCACATCAA CTCCGTGTGG AAAGACCTTC TGGAAGACAG TGTAACACCA 8000
8001 ATAGACACTA CCATCATGGC CAAGAACGAG GTTTCTGCG TTCAGCCTGA GAAGGGGGGT CGTAAGCCAG CTCGTCTCAT CGTGTTCCCC GACCTGGGCG 8100
8101 TGCGCGTGTG CGAGAAGATG GCCCTGTACG ACGTGGTTAG CAAGCTCCCC CTGGCCGTGA TGGGAAGCTC CTACGGATTC CAATACTCAC CAGGACAGCG 8200
8201 GGTTGAATTC CTCGTGCAAG CGTGGAAGTC CAAGAAGACC CCGATGGGGT TCTCGTATGA TACCCGCTGT TTTGACTCCA CAGTCACTGA GAGCGACATC 8300
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Fig. 11A-3

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8301 CGTACGGAGG AGGCAATTTA CCAATGTTGT GACCTGGACC CCCAAGCCCG CGTGGCCATC AAGTCCCTCA CTGAGAGGCT TTATGTTGGG GGCCCTCTTA 8400
8401 CCAATTCAAG GGGGGAAAAC TGCGGCTACC GCAGGTGCCG CCCGAGCGGC GTACTGACAA CTAGCTGTGG TAACACCCTC ACTTGCTACA TCAAGGCCCG 8500
8501 GGCAGCCTGT CGAGCCGCAG GGCTCCAGGA CTGCACCATG CTCGTGTGTG GCGACGACTT AGTCGTTATC TGTGAAAGTG CGGGGGTCCA GGAGGACGCG 8600
8601 GCGAGCCTGA GAGCCTTCAC GGAGGCTATG ACCAGGTACT CGCCCCCCCC CGGGGACCCC CCACAACCAG AATACGACTT GGAGCTTATA ACATCATGCT 8700
8701 CCTCCAACGT GTCAGTCGCC CACGACGGCG CTGGAAAGAG GGCCTACTAC CTTACCCGTG ACCCTACAAC CCCCCTCGCG AGAGCCGCGT GGGAGACAGC 8800
8801 AAGACACACT CCAGTCAATT CCTGGCTAGG CAACATAATC ATCTTTGCCC CCACACTGTG GGCGAGGATG ATACTGATGA CCCATTTCTT TAGCGTCCTC 8900
8901 ATAGCCAGGG ATCAGCTTGA ACAGGCTCTT AACTGTGAGA TCCACGGAGC CTGCTACTCC ATAGAACCAC TGGATCTACC TCCAATCATT CAAAGACTCC 9000
9001 ATGGCCTCAG CGCATTTTCA CTCCACAGTT ACTCTCCAGG TCAAATCAAT AGGGTGGCCG CATGCCTCAG AAAACTTGGG GTCCCGCCCT TGCGAGCTTG 9100
9101 GAGACACCGG GCCCGGAGCG TCCGCGCTAG GCTTCTGTCC ACAGGAGGCA GGGCTGCCAT ATGTGGCAAG TACCTCTTCA ACTGGGCAGT AAGAACAAAG 9200
9201 CTCAAACTCA CTCCAATAGC GGCCGCTGGC CGGCTGGACT TCCCCGGTTG GTTCACGGCT GGCTACAGCG GGGGAGACAT TTATCACAGC GTGTCTCATG 9300
9301 CCCGGCCCCG CTGGTTCTGG TTTTGCCTAC TCCTGCTCGC TCCAGGGGTA GGCATCTACC TCCTCCCCAA CCGATGAAGG TTGGGGTAAA CACTCCGGCC 9400
9401 TCTTAAGCCA TTTCCTGTTT TTTTTTTTTT TTTTTCTTTT TTTTTTTTCT CTTTTTTTCC TTTCTTTTTC CCTTCTTTAA 9500
9501 TGGTGGCTCC ATCTTAGCCC TAGTCACGGC TAGCTGTGAA AGGTCCGTGA GCCGCATGAC TGCAGAGAGT GCTGATACTG GCCTCTCTGC AGATCATGT 9599
          |  10        |  20        |  30        |  40        |  50        |  60        |  70        |  80        |  90        |  100
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Fig. 11B-1

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342/1                                   372/11                                  402/21
ATG AGC ACG AAT CCT AAA CCT CAA AGA AAA ACC AAA CGT AAC ACC AAC CGT CGC CCA CAG GAC GTC AAG TTC CCG GGT GGC GGT CAG ATC
M   S   T   N   P   K   P   Q   R   K   T   K   R   N   T   N   R   R   P   Q   D   V   K   F   P   G   G   G   Q   I
432/31                                  462/41                                  492/51
GTT GGT GGA GTT TAC TTG TTG CCG CGC AGG GGC CCT AGA TTG GGT GTG CGC GCG ACG AGG AAG ACT TCC GAG CGG TCG CAA CCT CGA GGT
V   G   G   V   Y   L   L   P   R   R   G   P   R   L   G   V   R   A   T   R   K   T   S   E   R   S   Q   P   R   G
522/61                                  552/71                                  582/81
AGA CGT CAG CCT ATC CCC AAG GCA CGT CGG CCC GAG GGC AGG ACC TGG GCT CAG CCC GGG TAC CCT TGG CCC CTC TAT GGC AAT GAG GGT
R   R   Q   P   I   P   K   A   R   R   P   E   G   R   T   W   A   Q   P   G   Y   P   W   P   L   Y   G   N   E   G
612/91                                  642/101                                 672/111
TGC GGG TGG GCG GGA TGG CTC CTG TCT CCC CGT GGC TCT CGG CCT AGC TGG GGC CCC ACA GAC CCC CGG CGT AGG TCG CGC AAT TTG GGT
C   G   W   A   G   W   L   L   S   P   R   G   S   R   P   S   W   G   P   T   D   P   R   R   R   S   R   N   L   G
702/121                                 732/131                                 762/141
AAG GTC ATC GAT ACC CTT ACG TGC GGC TTC GCC GAC CTC ATG GGG TAC ATA CCG CTC GTC GGC GCC CCT CTT GGA GGC GCT GCC AGG GCC
K   V   I   D   T   L   T   C   G   F   A   D   L   M   G   Y   I   P   L   V   G   A   P   L   G   G   A   A   R   A
792/151                                 822/161                                 852/171
CTG GCG CAT GGC GTC CGG GTT CTG GAA GAC GGC GTG AAC TAT GCA ACA GGG AAC CTT CCT GGT TGC TCT TTC TCT ATC TTC CTT CTG GCC
L   A   H   G   V   R   V   L   E   D   G   V   N   Y   A   T   G   N   L   P   G   C   S   F   S   I   F   L   L   A
882/181                                 912/191                                 942/201
CTG CTC TCT TGC CTG ACT GTG CCC GCT TCA GCC TAC CAA GTG CGC AAT TCC TCG GGG CTT TAC CAT GTC ACC AAT GAT TGC CCT AAC TCG
L   L   S   C   L   T   V   P   A   S   A   Y   Q   V   R   N   S   S   G   L   Y   H   V   T   N   D   C   P   N   S
972/211                                 1002/221                                1032/231
AGT ATT GTG TAC GAG GCG GCC GAT GCC ATC CTG CAC ACT CCG GGG TGT GTC CCT TGC GTT CGC GAG GGT AAC GCC TCG AGG TGT TGG GTG
S   I   V   Y   E   A   A   D   A   I   L   H   T   P   G   C   V   P   C   V   R   E   G   N   A   S   R   C   W   V
1062/241                                1092/251                                1122/261
GCG GTG ACC CCC ACG GTG GCC ACC AGG GAC GGC AAA CTC CCC ACA ACG CAG CTT CGA CGT CAT ATC GAT CTG CTT GTC GGG AGC GCC ACC
A   V   T   P   T   V   A   T   R   D   G   K   L   P   T   T   Q   L   R   R   H   I   D   L   L   V   G   S   A   T
1152/271                                1182/281                                1212/291
CTC TGC TCG GCC CTC TAC GTG GGG GAC CTG TGC GGG TCT GTC TTT CTT GTT GGT CAA CTG TTT ACC TTC TCT CCC AGG CGC CAC TGG ACG
L   C   S   A   L   Y   V   G   D   L   C   G   S   V   F   L   V   G   Q   L   F   T   F   S   P   R   R   H   W   T
1242/301                                1272/311                                1302/321
ACG CAA GAC TGC AAT TGT TCT ATC TAT CCC GGC CAT ATA ACG GGT CAT CGC ATG GCA TGG GAT ATG ATG ATG AAC TGG TCC CCT ACG GCA
T   Q   D   C   N   C   S   I   Y   P   G   H   I   T   G   H   R   M   A   W   D   M   M   M   N   W   S   P   T   A
1332/331                                1362/341                                1392/351
GCG TTG GTG GTA GCT CAG CTG CTC CGG ATC CCA CAA GCC ATC ATG GAC ATG ATC GCT GGT GCT CAC TGG GGA GTC CTG GCG GGC ATA GCG
A   L   V   V   A   Q   L   L   R   I   P   Q   A   I   M   D   M   I   A   G   A   H   W   G   V   L   A   G   I   A
1422/361                                1452/371                                1482/381
TAT TTC TCC ATG GTG GGG AAC TGG GCG AAG GTC CTG GTA GTG CTG CTG CTA TTT GCC GGC GTC GAC GCG GAA ACC CAC GTC ACC GGG GGA
Y   F   S   M   V   G   N   W   A   K   V   L   V   V   L   L   L   F   A   G   V   D   A   E   T   H   V   T   G   G
1512/391                                1542/401                                1572/411
AAT GCC GGC CGC ACC ACG GCT GGG CTT GTT GGT CTC CTT ACA CCA GGC GCC AAG CAG AAC ATC CAA CTG ATC AAC ACC AAC GGC AGT TGG
N   A   G   R   T   T   A   G   L   V   G   L   L   T   P   G   A   K   Q   N   I   Q   L   I   N   T   N   G   S   W
1602/421                                1632/431                                1662/441
CAC ATC AAT AGC ACG GCC TTG AAT TGC AAT GAA AGC CTT AAC ACC GGC TGG TTA GCA GGG CTC TTC TAT CAA CAC AAA TTC AAC TCT TCA
H   I   N   S   T   A   L   N   C   N   E   S   L   N   T   G   W   L   A   G   L   F   Y   Q   H   K   F   N   S   S
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Fig. 11B-2

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1692/451                                    1722/461                                    1752/471
GGC TGT CCT GAG AGG TTG GCC AGC TGC CGA CGC CTT ACC GAT TTT GCC CAG GGC TGG GGT CCT ATC AGT TAT GCC AAC GGA AGC GGC CTC
G   C   P   E   R   L   A   S   C   R   R   L   T   D   F   A   Q   G   W   G   P   I   S   Y   A   N   G   S   G   L
1782/481                                    1812/491                                    1842/501
GAC GAA CGC CCC TAC TGC TGG CAC TAC CCT CCA AGA CCT TGT GGC ATT GTG CCC GCA AAG AGC GTG TGT GGC CCG GTA TAT TGC TTC ACT
D   E   R   P   Y   C   W   H   Y   P   P   R   P   C   G   I   V   P   A   K   S   V   C   G   P   V   Y   C   F   T
1872/511                                    1902/521                                    1932/531
CCC AGC CCC GTG GTG GTG GGA ACG ACC GAC AGG TCG GGC GCG CCT ACC TAC AGC TGG GGT GCA AAT GAT ACG GAT GTC TTC GTC CTT AAC
P   S   P   V   V   V   G   T   T   D   R   S   G   A   P   T   Y   S   W   G   A   N   D   T   D   V   F   V   L   N
1962/541                                    1992/551                                    2022/561
AAC ACC AGG CCA CCG CTG GGC AAT TGG TTC GGT TGT ACC TGG ATG AAC TCA ACT GGA TTC ACC AAA GTG TGC GGA GCG CCC CCT TGT GTC
N   T   R   P   P   L   G   N   W   F   G   C   T   W   M   N   S   T   G   F   T   K   V   C   G   A   P   P   C   V
2052/571                                    2082/581                                    2112/591
ATC GGA GGG GTG GGC AAC AAC ACC TTG CTC TGC CCC ACT GAT TGC TTC CGC AAA CAT CCG GAA GCC ACA TAC TCT CGG TGC GGC TCC GGT
I   G   G   V   G   N   N   T   L   L   C   P   T   D   C   F   R   K   H   P   E   A   T   Y   S   R   C   G   S   G
2142/601                                    2172/611                                    2202/621
CCC TGG ATT ACA CCC AGG TGC ATG GTC GAC TAC CCG TAT AGG CTT TGG CAC TAT CCT TGT ACC ATC AAT TAC ACC ATA TTC AAA GTC AGG
P   W   I   T   P   R   C   M   V   D   Y   P   Y   R   L   W   H   Y   P   C   T   I   N   Y   T   I   F   K   V   R
2232/631                                    2262/641                                    2292/651
ATG TAC GTG GGA GGG GTC GAG CAC AGG CTG GAA GCG GCC TGC AAC TGG ACG CGG GGC GAA CGC TGT GAT CTG GAA GAC AGG GAC AGG TCC
M   Y   V   G   G   V   E   H   R   L   E   A   A   C   N   W   T   R   G   E   R   C   D   L   E   D   R   D   R   S
2322/661                                    2352/671                                    2382/681
GAG CTC AGC CCG TTG CTG CTG TCC ACC ACA CAG TGG CAG GTC CTT CCG TGT TCT TTC ACG ACC CTG CCA GCC TTG TCC ACC GGC CTC ATC
E   L   S   P   L   L   L   S   T   T   Q   W   Q   V   L   P   C   S   F   T   T   L   P   A   L   S   T   G   L   I
2412/691                                    2442/701                                    2472/711
CAC CTC CAC CAG AAC ATT GTG GAC GTG CAG TAC TTG TAC GGG GTA GGG TCA AGC ATC GCG TCC TGG GCC ATT AAG TGG GAG TAC GTC GTT
H   L   H   Q   N   I   V   D   V   Q   Y   L   Y   G   V   G   S   S   I   A   S   W   A   I   K   W   E   Y   V   V
2502/721                                    2532/731                                    2562/741
CTC CTG TTC CTT CTG CTT GCA GAC GCG CGC GTC TGC TCC TGC TTG TGG ATG ATG TTA CTC ATA TCC CAA GCG GAG GCG GCT TTG GAG AAC
L   L   F   L   L   L   A   D   A   R   V   C   S   C   L   W   M   M   L   L   I   S   Q   A   E   A   A   L   E   N
2592/751                                    2622/761                                    2652/771
CTC GTA ATA CTC AAT GCA GCA TCC CTG GCC GGG ACG CAC GGT CTT GTG TCC TTC CTC GTG TTC TTC TGC TTT GCG TGG TAT CTG AAG GGT
L   V   I   L   N   A   A   S   L   A   G   T   H   G   L   V   S   F   L   V   F   F   C   F   A   W   Y   L   K   G
2682/781                                    2712/791                                    2742/801
AGG TGG GTG CCC GGA GCG GTC TAC GCC CTC TAC GGG ATG TGG CCT CTC CTC CTG CTC CTG CTG GCG TTG CCT CAG CGG GCA TAC GCA CTG
R   W   V   P   G   A   V   Y   A   L   Y   G   M   W   P   L   L   L   L   L   L   A   L   P   Q   R   A   Y   A   L
2772/811                                    2802/821                                    2832/831
GAC ACG GAG GTG GCC GCG TCG TGT GGC GGC GTT GTT CTT GTC GGG TTA ATG GCG CTG ACT CTG TCG CCA TAT TAC AAG CGC TAT ATC AGC
D   T   E   V   A   A   S   C   G   G   V   V   L   V   G   L   M   A   L   T   L   S   P   Y   Y   K   R   Y   I   S
2862/841                                    2892/851                                    2922/861
TGG TGC ATG TGG TGG CTT CAG TAT TTT CTG ACC AGA GTA GAA GCG CAA CTG CAC GTG TGG GTT CCC CCC CTC AAC GTC CGG GGG GGG CGC
W   C   M   W   W   L   Q   Y   F   L   T   R   V   E   A   Q   L   H   V   W   V   P   P   L   N   V   R   G   G   R
2952/871                                    2982/881                                    3012/891
GAT GCC GTC ATC TTA CTC ATG TGT GTA GTA CAC CCG ACC CTG GTA TTT GAC ATC ACC AAA CTA CTC CTG GCC ATC TTC GGA CCC CTT TGG
D   A   V   I   L   L   M   C   V   V   H   P   T   L   V   F   D   I   T   K   L   L   L   A   I   F   G   P   L   W
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SUBSTITUTE SHEET (RULE 26)

Fig. 11B-3

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3042/901                3072/911                3102/921
ATT CTT CAA GCC AGT TTG CTT AAA GTC CCC TAC TTC GTG CGC GTT CAA GGC CTT CTC CGG ATC TGC GCG CTA GCG CGG AAG ATA GCC GGA
I   L   Q   A   S   L   L   K   V   P   Y   F   V   R   V   Q   G   L   L   R   I   C   A   L   A   R   K   I   A   G
3132/931                3162/941                3192/951
GGT CAT TAC GTG CAA ATG GCC ATC ATC AAG TTA GGG GCG CTT ACT GGC ACC TAT GTG TAT AAC CAT CTC ACC CCT CTT CGA GAC TGG GCG
G   H   Y   V   Q   M   A   I   I   K   L   G   A   L   T   G   T   Y   V   Y   N   H   L   T   P   L   R   D   W   A
3222/961                3252/971                3282/981
CAC AAC GGC CTG CGA GAT CTG GCC GTG GCT GTG GAA CCA GTC GTC TTC TCC CGA ATG GAG ACC AAG CTC ATC ACG TGG GGG GCA GAT ACC
H   N   G   L   R   D   L   A   V   A   V   E   P   V   V   F   S   R   M   E   T   K   L   I   T   W   G   A   D   T
3312/991                3342/1001               3372/1011
GCC GCG TGC GGT GAC ATC ATC AAC GGC TTG CCC GTC TCT GCC CGT AGG GGC CAG GAG ATA CTG CTT GGG CCA GCC GAC GGA ATG GTC TCC
A   A   C   G   D   I   I   N   G   L   P   V   S   A   R   R   G   Q   E   I   L   L   G   P   A   D   G   M   V   S
3402/1021               3432/1031               3462/1041
AAG GGG TGG AGG TTG CTG GCG CCC ATC ACG GCG TAC GCC CAG CAG ACG AGA GGC CTC CTA GGG TGT ATA ATC ACC AGC CTG ACT GGC CGG
K   G   W   R   L   L   A   P   I   T   A   Y   A   Q   Q   T   R   G   L   L   G   C   I   I   T   S   L   T   G   R
3492/1051               3522/1061               3552/1071
GAC AAA AAC CAA GTG GAG GGT GAG GTC CAG ATC GTG TCA ACT GCT ACC CAA ACC TTC CTG GCA ACG TGC ATC AAT GGG GTA TGC TGG ACT
D   K   N   Q   V   E   G   E   V   Q   I   V   S   T   A   T   Q   T   F   L   A   T   C   I   N   G   V   C   W   T
3582/1081               3612/1091               3642/1101
GTC TAC CAC GGG GCC GGA ACG AGG ACC ATC GCA TCA CCC AAG GGT CCT GTC ATC CAG ATG TAT ACC AAT GTG GAC CAA GAC CTT GTG GGC
V   Y   H   G   A   G   T   R   T   I   A   S   P   K   G   P   V   I   Q   M   Y   T   N   V   D   Q   D   L   V   G
3672/1111               3702/1121               3732/1131
TGG CCC GCT CCT CAA GGT TCC CGC TCA TTG ACA CCC TGT ACC TGC GGC TCC TCG GAC CTT TAC CTG GTC ACG AGG CAC GCC GAT GTC ATT
W   P   A   P   Q   G   S   R   S   L   T   P   C   T   C   G   S   S   D   L   Y   L   V   T   R   H   A   D   V   I
3762/1141               3792/1151               3822/1161
CCC GTG CGC CGG CGA GGT GAT AGC AGG GGT AGC CTG CTT TCG CCC CGG CCC ATT TCC TAC TTG AAA GGC TCC TCG GGG GGT CCG CTG TTG
P   V   R   R   R   G   D   S   R   G   S   L   L   S   P   R   P   I   S   Y   L   K   G   S   S   G   G   P   L   L
3852/1171               3882/1181               3912/1191
TGC CCC GCG GGA CAC GCC GTG GGC CTA TTC AGG GCC GCG GTG TGC ACC CGT GGA GTG GCT AAA GCG GTG GAC TTT ATC CCT GTG GAG AAC
C   P   A   G   H   A   V   G   L   F   R   A   A   V   C   T   R   G   V   A   K   A   V   D   F   I   P   V   E   N
3942/1201               3972/1211               4002/1221
CTA GGG ACA ACC ATG AGA TCC CCG GTG TTC ACG GAC AAC TCC TCT CCA CCA GCA GTG CCC CAG AGC TTC CAG GTG GCC CAC CTG CAT GCT
L   G   T   T   M   R   S   P   V   F   T   D   N   S   S   P   P   A   V   P   Q   S   F   Q   V   A   H   L   H   A
4032/1231               4062/1241               4092/1251
CCC ACC GGC AGC GGT AAG AGC ACC AAG GTC CCG GCT GCG TAC GCA GCC CAG GGC TAC AAG GTG TTG GTG CTC AAC CCC TCT GTT GCT GCA
P   T   G   S   G   K   S   T   K   V   P   A   A   Y   A   A   Q   G   Y   K   V   L   V   L   N   P   S   V   A   A
4122/1261               4152/1271               4182/1281
ACG CTG GGC TTT GGT GCT TAC ATG TCC AAG GCC CAT GGG GTT GAT CCT AAT ATC AGG ACC GGG GTG AGA ACA ATT ACC ACT GGC AGC CCC
T   L   G   F   G   A   Y   M   S   K   A   H   G   V   D   P   N   I   R   T   G   V   R   T   I   T   T   G   S   P
4212/1291               4242/1301               4272/1311
ATC ACG TAC TCC ACC TAC GGC AAG TTC CTT GCC GAC GGC GGG TGC TCA GGA GGT GCT TAT GAC ATA ATA ATT TGT GAC GAG TGC CAC TCC
I   T   Y   S   T   Y   G   K   F   L   A   D   G   G   C   S   G   G   A   Y   D   I   I   I   C   D   E   C   H   S
4302/1321               4332/1331               4362/1341
ACG GAT GCC ACA TCC ATC TTG GGC ATC GGC ACT GTC CTT GAC CAA GCA GAG ACT GCG GGG GCG AGA CTG GTT GTG CTC GCC ACT GCT ACC
T   D   A   T   S   I   L   G   I   G   T   V   L   D   Q   A   E   T   A   G   A   R   L   V   V   L   A   T   A   T
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Fig. 11B-4

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4392/1351                                   4422/1361                                   4452/1371
CCT CCG GGC TCC GTC ACT GTG TCC CAT CCT AAC ATC GAG GAG GTT GCT CTG TCC ACC ACC GGA GAG ATC CCC TTT TAC GGC AAG GCT ATC
P   P   G   S   V   T   V   S   H   P   N   I   E   E   V   A   L   S   T   T   G   E   I   P   F   Y   G   K   A   I
4482/1381                                   4512/1391                                   4542/1401
CCC CTC GAG GTG ATC AAG GGG GGA AGA CAT CTC ATC TTC TGC CAC TCA AAG AAG AAG TGC GAC GAG CTC GCC GCG AAG CTG GTC GCA TTG
P   L   E   V   I   K   G   G   R   H   L   I   F   C   H   S   K   K   K   C   D   E   L   A   A   K   L   V   A   L
4572/1411                                   4602/1421                                   4632/1431
GGC ATC AAT GCC GTG GCC TAC TAC CGC GGT CTT GAC GTG TCT GTC ATC CCG ACC AGC GGC GAT GTT GTC GTC GTG TCG ACC GAT GCT CTC
G   I   N   A   V   A   Y   Y   R   G   L   D   V   S   V   I   P   T   S   G   D   V   V   V   V   S   T   D   A   L
4662/1441                                   4692/1451                                   4722/1461
ATG ACT GGC TTT ACC GGC GAC TTC GAC TCT GTG ATA GAC TGC AAC ACG TGT GTC ACT CAG ACA GTC GAT TTC AGC CTT GAC CCT ACC TTT
M   T   G   F   T   G   D   F   D   S   V   I   D   C   N   T   C   V   T   Q   T   V   D   F   S   L   D   P   T   F
4752/1471                                   4782/1481                                   4812/1491
ACC ATT GAG ACA ACC ACG CTC CCC CAG GAT GCT GTC TCC AGG ACT CAA CGC CGG GGC AGG ACT GGC AGG GGG AAG CCA GGC ATC TAT AGA
T   I   E   T   T   T   L   P   Q   D   A   V   S   R   T   Q   R   R   G   R   T   G   R   G   K   P   G   I   Y   R
4842/1501                                   4872/1511                                   4902/1521
TTT GTG GCA CCG GGG GAG CGC CCC TCC GGC ATG TTC GAC TCG TCC GTC CTC TGT GAG TGC TAT GAC GCG GGC TGT GCT TGG TAT GAG CTC
F   V   A   P   G   E   R   P   S   G   M   F   D   S   S   V   L   C   E   C   Y   D   A   G   C   A   W   Y   E   L
4932/1531                                   4962/1541                                   4992/1551
ACG CCC GCC GAG ACT ACA GTT AGG CTA CGA GCG TAC ATG AAC ACC CCG GGG CTT CCC GTG TGC CAG GAC CAT CTT GAA TTT TGG GAG GGC
T   P   A   E   T   T   V   R   L   R   A   Y   M   N   T   P   G   L   P   V   C   Q   D   H   L   E   F   W   E   G
5022/1561                                   5052/1571                                   5082/1581
GTC TTT ACG GGC CTC ACT CAT ATA GAT GCC CAC TTT TTA TCC CAG ACA AAG CAG AGT GGG GAG AAC TTT CCT TAC CTG GTA GCG TAC CAA
V   F   T   G   L   T   H   I   D   A   H   F   L   S   Q   T   K   Q   S   G   E   N   F   P   Y   L   V   A   Y   Q
5112/1591                                   5142/1601                                   5172/1611
GCC ACC GTG TGC GCT AGG GCT CAA GCC CCT CCC CCA TCG TGG GAC CAG ATG TGG AAG TGT TTG ATC CGC CTT AAA CCC ACC CTC CAT GGG
A   T   V   C   A   R   A   Q   A   P   P   P   S   W   D   Q   M   W   K   C   L   I   R   L   K   P   T   L   H   G
5202/1621                                   5232/1631                                   5262/1641
CCA ACA CCC CTG CTA TAC AGA CTG GGC GCT GTT CAG AAT GAA GTC ACC CTG ACG CAC CCA ATC ACC AAA TAC ATC ATG ACA TGC ATG TCG
P   T   P   L   L   Y   R   L   G   A   V   Q   N   E   V   T   L   T   H   P   I   T   K   Y   I   M   T   C   M   S
5292/1651                                   5322/1661                                   5352/1671
GCC GAC CTG GAG GTC GTC ACG AGC ACC TGG GTG CTC GTT GGC GGC GTC CTG GCT GCT CTG GCC GCG TAT TGC CTG TCA ACA GGC TGC GTG
A   D   L   E   V   V   T   S   T   W   V   L   V   G   G   V   L   A   A   L   A   A   Y   C   L   S   T   G   C   V
5382/1681                                   5412/1691                                   5442/1701
GTC ATA GTG GGC AGG ATC GTC TTG TCC GGG AAG CCG GCA ATT ATA CCT GAC AGG GAG GTT CTC TAC CAG GAG TTC GAT GAG ATG GAA GAG
V   I   V   G   R   I   V   L   S   G   K   P   A   I   I   P   D   R   E   V   L   Y   Q   E   F   D   E   M   E   E
5472/1711                                   5502/1721                                   5532/1731
TGC TCT CAG CAC TTA CCG TAC ATC GAG CAA GGG ATG ATG CTC GCT GAG CAG TTC AAG CAG AAG GCC CTC GGC CTC CTG CAG ACC GCG TCC
C   S   Q   H   L   P   Y   I   E   Q   G   M   M   L   A   E   Q   F   K   Q   K   A   L   G   L   L   Q   T   A   S
5562/1741                                   5592/1751                                   5622/1761
CGC CAT GCA GAG GTT ATC ACC CCT GCT GTC CAG ACC AAC TGG CAG AAA CTC GAG GTC TTT TGG GCG AAG CAC ATG TGG AAT TTC ATC AGT
R   H   A   E   V   I   T   P   A   V   Q   T   N   W   Q   K   L   E   V   F   W   A   K   H   M   W   N   F   I   S
5652/1771                                   5682/1781                                   5712/1791
GGG ATA CAA TAC TTG GCG GGC CTG TCA ACG CTG CCT GGT AAC CCC GCC ATT GCT TCA TTG ATG GCT TTT ACA GCT GCC GTC ACC AGC CCA
G   I   Q   Y   L   A   G   L   S   T   L   P   G   N   P   A   I   A   S   L   M   A   F   T   A   A   V   T   S   P
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Fig. 11B-5

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5742/1801                                                   5772/1811                                                   5802/1821
CTA ACC ACT GGC CAA ACC CTC CTC TTC AAC ATA TTG GGG GGG TGG GTG GCT GCC CAG CTC GCC GCC CCC GGT GCC GCT ACT GCC TTT GTG
L   T   T   G   Q   T   L   L   F   N   I   L   G   G   W   V   A   A   Q   L   A   A   P   G   A   A   T   A   F   V
5832/1831                                                   5862/1841                                                   5892/1851
GGT GCT GGC CTA GCT GGC GCC GCC ATC GGC AGC GTT GGA CTG GGG AAG GTC CTC GTG GAC ATT CTT GCA GGG TAT GGC GCG GGC GTG GCG
G   A   G   L   A   G   A   A   I   G   S   V   G   L   G   K   V   L   V   D   I   L   A   G   Y   G   A   G   V   A
5922/1861                                                   5952/1871                                                   5982/1881
GGA GCT CTT GTA GCA TTC AAG ATC ATG AGC GGT GAG GTC CCC TCC ACG GAG GAC CTG GTC AAT CTG CTG CCC GCC ATC CTC TCG CCT GGA
G   A   L   V   A   F   K   I   M   S   G   E   V   P   S   T   E   D   L   V   N   L   L   P   A   I   L   S   P   G
6012/1891                                                   6042/1901                                                   6072/1911
GCC CTT GTA GTC GGT GTG GTC TGC GCA GCA ATA CTG CGC CGG CAC GTT GGC CCG GGC GAG GGG GCA GTG CAA TGG ATG AAC CGG CTA ATA
A   L   V   V   G   V   V   C   A   A   I   L   R   R   H   V   G   P   G   E   G   A   V   Q   W   M   N   R   L   I
6102/1921                                                   6132/1931                                                   6162/1941
GCC TTC GCC TCC CGG GGG AAC CAT GTT TCC CCC ACG CAC TAC GTG CCG GAG AGC GAT GCA GCC GCC CGC GTC ACT GCC ATA CTC AGC AGC
A   F   A   S   R   G   N   H   V   S   P   T   H   Y   V   P   E   S   D   A   A   A   R   V   T   A   I   L   S   S
6192/1951                                                   6222/1961                                                   6252/1971
CTC ACT GTA ACC CAG CTC CTG AGG CGA CTG CAT CAG TGG ATA AGC TCG GAG TGT ACC ACT CCA TGC TCC GGT TCC TGG CTA AGG GAC ATC
L   T   V   T   Q   L   L   R   R   L   H   Q   W   I   S   S   E   C   T   T   P   C   S   G   S   W   L   R   D   I
6282/1981                                                   6312/1991                                                   6342/2001
TGG GAC TGG ATA TGC GAG GTG CTG AGC GAC TTT AAG ACC TGG CTG AAA GCC AAG CTC ATG CCA CAA CTG CCT GGG ATT CCC TTT GTG TCC
W   D   W   I   C   E   V   L   S   D   F   K   T   W   L   K   A   K   L   M   P   Q   L   P   G   I   P   F   V   S
6372/2011                                                   6402/2021                                                   6432/2031
TGC CAG CGC GGG TAT AGG GGG GTC TGG CGA GGA GAC GGC ATT ATG CAC ACT CGC TGC CAC TGT GGA GCT GAG ATC ACT GGA CAT GTC AAA
C   Q   R   G   Y   R   G   V   W   R   G   D   G   I   M   H   T   R   C   H   C   G   A   E   I   T   G   H   V   K
6462/2041                                                   6492/2051                                                   6522/2061
AAC GGG ACG ATG AGG ATC GTC GGT CCT AGG ACC TGC AGG AAC ATG TGG AGT GGG ACG TTC CCC ATT AAC GCC TAC ACC ACG GGC CCC TGT
N   G   T   M   R   I   V   G   P   R   T   C   R   N   M   W   S   G   T   F   P   I   N   A   Y   T   T   G   P   C
6552/2071                                                   6582/2081                                                   6612/2091
ACT CCC CTT CCT GCG CCG AAC TAT AAG TTC GCG CTG TGG AGG GTG TCT GCA GAG GAA TAC GTG GAG ATA AGG CGG GTG GGG GAC TTC CAC
T   P   L   P   A   P   N   Y   K   F   A   L   W   R   V   S   A   E   E   Y   V   E   I   R   R   V   G   D   F   H
6642/2101                                                   6672/2111                                                   6702/2121
TAC GTA TCG GGT ATG ACT ACT GAC AAT CTT AAA TGC CCG TGC CAG ATC CCA TCG CCC GAA TTT TTC ACA GAA TTG GAC GGG GTG CGC CTA
Y   V   S   G   M   T   T   D   N   L   K   C   P   C   Q   I   P   S   P   E   F   F   T   E   L   D   G   V   R   L
6732/2131                                                   6762/2141                                                   6792/2151
CAC AGG TTT GCG CCC CCT TGC AAG CCC TTG CTG CGG GAG GAG GTA TCA TTC AGA GTA GGA CTC CAC GAG TAC CCG GTG GGG TCG CAA TTA
H   R   F   A   P   P   C   K   P   L   L   R   E   E   V   S   F   R   V   G   L   H   E   Y   P   V   G   S   Q   L
6822/2161                                                   6852/2171                                                   6882/2181
CCT TGC GAG CCC GAA CCG GAC GTA GCC GTG TTG ACG TCC ATG CTC ACT GAT CCC TCC CAT ATA ACA GCA GAG GCG GCC GGG AGA AGG TTG
P   C   E   P   E   P   D   V   A   V   L   T   S   M   L   T   D   P   S   H   I   T   A   E   A   A   G   R   R   L
6912/2191                                                   6942/2201                                                   6972/2211
GCG AGA GGG TCA CCC CCT TCT ATG GCC AGC TCC TCG GCT AGC CAG CTG TCC GCT CCA TCT CTC AAG GCA ACT TGC ACC GCC AAC CAT GAC
A   R   G   S   P   P   S   M   A   S   S   S   A   S   Q   L   S   A   P   S   L   K   A   T   C   T   A   N   H   D
7002/2221                                                   7032/2231                                                   7062/2241
TCC CCT GAC GCC GAG CTC ATA GAG GCT AAC CTC CTG TGG AGG CAG GAG ATG GGC GGC AAC ATC ACC AGG GTT GAG TCA GAG AAC AAA GTG
S   P   D   A   E   L   I   E   A   N   L   L   W   R   Q   E   M   G   G   N   I   T   R   V   E   S   E   N   K   V
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Fig. 11B-6

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7092/2251                                   7122/2261                                   7152/2271
GTG ATT CTG GAC TCC TTC GAT CCG CTT GTG GCA GAG GAG GAT GAG CGG GAG GTC TCC GTA CCT GCA GAA ATT CTG CGG AAG TCT CGG AGA
V   I   L   D   S   F   D   P   L   V   A   E   E   D   E   R   E   V   S   V   P   A   E   I   L   R   K   S   R   R
7182/2281                                   7212/2291                                   7242/2301
TTC GCC CGG GCC CTG CCC GTC TGG GCG CGG CCG GAC TAC AAC CCC CCG CTA GTA GAG ACG TGG AAA AAG CCT GAC TAC GAA CCA CCT GTG
F   A   R   A   L   P   V   W   A   R   P   D   Y   N   P   P   L   V   E   T   W   K   K   P   D   Y   E   P   P   V
7272/2311                                   7302/2321                                   7332/2331
GTC CAT GGC TGC CCG CTA CCA CCT CCA CGG TCC CCT CCT GTG CCT CCG CCT CGG AAA AAG CGT ACG GTG GTC CTC ACC GAA TCA ACC CTA
V   H   G   C   P   L   P   P   P   R   S   P   P   V   P   P   P   R   K   K   R   T   V   V   L   T   E   S   T   L
7362/2341                                   7392/2351                                   7422/2361
TCT ACT GCC TTG GCC GAG CTT GCC ACC AAA AGT TTT GGC AGC TCC TCA ACT TCC GGC ATT ACG GGC GAC AAT ACG ACA ACA TCC TCT GAG
S   T   A   L   A   E   L   A   T   K   S   F   G   S   S   S   T   S   G   I   T   G   D   N   T   T   T   S   S   E
7452/2371                                   7482/2381                                   7512/2391
CCC GCC CCT TCT GGC TGC CCC CCC GAC TCC GAC GTT GAG TCC TAT TCT TCC ATG CCC CCC CTG GAG GGG GAG CCT GGG GAT CCG GAT CTC
P   A   P   S   G   C   P   P   D   S   D   V   E   S   Y   S   S   M   P   P   L   E   G   E   P   G   D   P   D   L
7542/2401                                   7572/2411                                   7602/2421
AGC GAC GGG TCA TGG TCG ACG GTC AGT AGT GGG GCC GAC ACG GAA GAT GTC GTG TGC TGC TCA ATG TCT TAT TCC TGG ACA GGC GCA CTC
S   D   G   S   W   S   T   V   S   S   G   A   D   T   E   D   V   V   C   C   S   M   S   Y   S   W   T   G   A   L
7632/2431                                   7662/2441                                   7692/2451
GTC ACC CCG TGC GCT GCG GAA GAA CAA AAA CTG CCC ATC AAC GCA CTG AGC AAC TCG TTG CTA CGC CAT CAC AAT CTG GTG TAT TCC ACC
V   T   P   C   A   A   E   E   Q   K   L   P   I   N   A   L   S   N   S   L   L   R   H   H   N   L   V   Y   S   T
7722/2461                                   7752/2471                                   7782/2481
ACT TCA CGC AGT GCT TGC CAA AGG CAG AAG AAA GTC ACA TTT GAC AGA CTG CAA GTT CTG GAC AGC CAT TAC CAG GAC GTG CTC AAG GAG
T   S   R   S   A   C   Q   R   Q   K   K   V   T   F   D   R   L   Q   V   L   D   S   H   Y   Q   D   V   L   K   E
7812/2491                                   7842/2501                                   7872/2511
GTC AAA GCA GCG GCG TCA AAA GTG AAG GCT AAC TTG CTA TCC GTA GAG GAA GCT TGC AGC CTG ACG CCC CCA CAT TCA GCC AAA TCC AAG
V   K   A   A   A   S   K   V   K   A   N   L   L   S   V   E   E   A   C   S   L   T   P   P   H   S   A   K   S   K
7902/2521                                   7932/2531                                   7962/2541
TTT GGC TAT GGG GCA AAA GAC GTC CGT TGC CAT GCC AGA AAG GCC GTA GCC CAC ATC AAC TCC GTG TGG AAA GAC CTT CTG GAA GAC AGT
F   G   Y   G   A   K   D   V   R   C   H   A   R   K   A   V   A   H   I   N   S   V   W   K   D   L   L   E   D   S
7992/2551                                   8022/2561                                   8052/2571
GTA ACA CCA ATA GAC ACT ACC ATC ATG GCC AAG AAC GAG GTT TTC TGC GTT CAG CCT GAG AAG GGG GGT CGT AAG CCA GCT CGT CTC ATC
V   T   P   I   D   T   T   I   M   A   K   N   E   V   F   C   V   Q   P   E   K   G   G   R   K   P   A   R   L   I
8082/2581                                   8112/2591                                   8142/2601
GTG TTC CCC GAC CTG GGC GTG CGC GTG TGC GAG AAG ATG GCC CTG TAC GAC GTG GTT AGC AAG CTC CCC CTG GCC GTG ATG GGA AGC TCC
V   F   P   D   L   G   V   R   V   C   E   K   M   A   L   Y   D   V   V   S   K   L   P   L   A   V   M   G   S   S
8172/2611                                   8202/2621                                   8232/2631
TAC GGA TTC CAA TAC TCA CCA GGA CAG CGG GTT GAA TTC CTC GTG CAA GCG TGG AAG TCC AAG AAG ACC CCG ATG GGG TTC TCG TAT GAT
Y   G   F   Q   Y   S   P   G   Q   R   V   E   F   L   V   Q   A   W   K   S   K   K   T   P   M   G   F   S   Y   D
8262/2641                                   8292/2651                                   8322/2661
ACC CGC TGT TTT GAC TCC ACA GTC ACT GAG AGC GAC ATC CGT ACG GAG GAG GCA ATT TAC CAA TGT TGT GAC CTG GAC CCC CAA GCC CGC
T   R   C   F   D   S   T   V   T   E   S   D   I   R   T   E   E   A   I   Y   Q   C   C   D   L   D   P   Q   A   R
8352/2671                                   8382/2681                                   8412/2691
GTG GCC ATC AAG TCC CTC ACT GAG AGG CTT TAT GTT GGG GGC CCT CTT ACC AAT TCA AGG GGG GAA AAC TGC GGC TAC CGC AGG TGC CGC
V   A   I   K   S   L   T   E   R   L   Y   V   G   G   P   L   T   N   S   R   G   E   N   C   G   Y   R   R   C   R
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Fig. 11B-7

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8442/2701                                   8472/2711                                   8502/2721
GCG AGC GGC GTA CTG ACA ACT AGC TGT GGT AAC ACC CTC ACT TGC TAC ATC AAG GCC CGG GCA GCC TGT CGA GCC GCA GGG CTC CAG GAC
A   S   G   V   L   T   T   S   C   G   N   T   L   T   C   Y   I   K   A   R   A   A   C   R   A   A   G   L   Q   D
8532/2731                                   8562/2741                                   8592/2751
TGC ACC ATG CTC GTG TGT GGC GAC GAC TTA GTC GTT ATC TGT GAA AGT GCG GGG GTC CAG GAG GAC GCG GCG AGC CTG AGA GCC TTC ACG
C   T   M   L   V   C   G   D   D   L   V   V   I   C   E   S   A   G   V   Q   E   D   A   A   S   L   R   A   F   T
8622/2761                                   8652/2771                                   8682/2781
GAG GCT ATG ACC AGG TAC TCC GCC CCC CCC GGG GAC CCC CCA CAA CCA GAA TAC GAC TTG GAG CTT ATA ACA TCA TGC TCC TCC AAC GTG
E   A   M   T   R   Y   S   A   P   P   G   D   P   P   Q   P   E   Y   D   L   E   L   I   T   S   C   S   S   N   V
8712/2791                                   8742/2801                                   8772/2811
TCA GTC GCC CAC GAC GGC GCT GGA AAG AGG GTC TAC TAC CTT ACC CGT GAC CCT ACA ACC CCC CTC GCG AGA GCC GCG TGG GAG ACA GCA
S   V   A   H   D   G   A   G   K   R   V   Y   Y   L   T   R   D   P   T   T   P   L   A   R   A   A   W   E   T   A
8802/2821                                   8832/2831                                   8862/2841
AGA CAC ACT CCA GTC AAT TCC TGG CTA GGC AAC ATA ATC ATG TTT GCC CCC ACA CTG TGG GCG AGG ATG ATA CTG ATG ACC CAT TTC TTT
R   H   T   P   V   N   S   W   L   G   N   I   I   M   F   A   P   T   L   W   A   R   M   I   L   M   T   H   F   F
8892/2851                                   8922/2861                                   8952/2871
AGC GTC CTC ATA GCC AGG GAT CAG CTT GAA CAG GCT CTT AAC TGT GAG ATC TAC GGA GCC TGC TAC TCC ATA GAA CCA CTG GAT CTA CCT
S   V   L   I   A   R   D   Q   L   E   Q   A   L   N   C   E   I   Y   G   A   C   Y   S   I   E   P   L   D   L   P
8982/2881                                   9012/2891                                   9042/2901
CCA ATC ATT CAA AGA CTC CAT GGC CTC AGC GCA TTT TCA CTC CAC AGT TAC TCT CCA GGT GAA ATC AAT AGG GTG GCC GCA TGC CTC AGA
P   I   I   Q   R   L   H   G   L   S   A   F   S   L   H   S   Y   S   P   G   E   I   N   R   V   A   A   C   L   R
9072/2911                                   9102/2921                                   9132/2931
AAA CTT GGG GTC CCG CCC TTG CGA GCT TGG AGA CAC CGG GCC CGG AGC GTC CGC GCT AGG CTT CTG TCC AGA GGA GGC AGG GCT GCC ATA
K   L   G   V   P   P   L   R   A   W   R   H   R   A   R   S   V   R   A   R   L   L   S   R   G   G   R   A   A   I
9162/2941                                   9192/2951                                   9222/2961
TGT GGC AAG TAC CTC TTC AAC TGG GCA GTA AGA ACA AAG CTC AAA CTC ACT CCA ATA GCG GCC GCT GGC CGG CTG GAC TTG TCC GGT TGG
C   G   K   Y   L   F   N   W   A   V   R   T   K   L   K   L   T   P   I   A   A   A   G   R   L   D   L   S   G   W
9252/2971                                   9282/2981                                   9312/2991
TTC ACG GCT GGC TAC AGC GGG GGA GAC ATT TAT CAC AGC GTG TCT CAT GCC CGG CCC CGC TGG TTC TGG TTT TGC CTA CTC CTG CTC GCT
F   T   A   G   Y   S   G   G   D   I   Y   H   S   V   S   H   A   R   P   R   W   F   W   F   C   L   L   L   L   A
9342/3001                                   9372/3011                                   9402/3021
GCA GGG GTA GGC ATC TAC CTC CTC CCC AAC CGA TGA
A   G   V   G   I   Y   L   L   P   N   R   *
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Fig. 12A-1

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                1 GCCAGCCCCC TGATGGGGGC GACACTCCAC CATGAATCAC TCCCCTGTGA GGAACTACTG TCTTCACGCA GAAAGCGTCT AGCCATGGCG TTAGTATGAG 100
              101 TGTCGTGCAG CCTCCAGGAC CCCCCCTCCC GGGAGAGCCA TAGTGGTCTG CGGAACCGGT GAGTACACCG GAATTGCCAG GACGACCGGG TCCTTCTTG 200
              201 GATAAACCCG CTCAATGCCT GGAGATTTGG GCGTGCCCCC GCAAGACTGC TAGCCGAGTA GTGTTGGGTC GCGAAAGGCC TTGTGGTACT GCCTGATAGG 300
              301 GTGCTTGCGA GTGCCCCGGG AGGTCTCGTA GACCGTGCAC CATGGAGCCA GTAGATCCTA GACTAGAGCC CTGGAAGCAT CCAGGAAGTC AGCCTAAAAC 400
              401 TGCTTGTACC AATTGCTATT GTAAAAAGTG TTGCTTTCAT TGCCAAGTTT GTTTCATAAC AAAAGCCTTA GGCATCTCCT ATGGCAGGAA GAAGCGGAGA 500
              501 CAGCGACGAA GACCTCCTCA AGGCAGTCAG ACTCATCAAG TTTCTCTATC AAAGCAACCC ACCTCCCAAT CCCGAGGGGA CCCGACAGGC CCGAAGGAAG 600
              601 AATTCGACCT TCTTAAGCTT GCGGGAGACG TCGAGTCCAA CCCTGGGCCC GGATCTGTTA ACATGATTGA ACAAGATGGA TTGCACGCAG GTTCTCCGGC 700
              701 CGCTTGGGTG GAGAGGCTAT TCGGCTATGA CTGGGCACAA CAGACAATCG GCTGCTCTGA TGCCGCCGTG TTCCGGCTGT CAGCGCAGGG GCGCCCGGTT 800
              801 CTTTTTGTCA AGACCGACCT GTCCGGTGCC CTGAATGAAC TGCAGGACGA GGCAGCGCGG CTATCGTGGC TGGCCACGAC GGGCGTTCCT TGCGCAGCTG 900
              901 TGCTCGACGT TGTCACTGAA GCGGGAAGGG ACTGGCTGCT ATTGGGCGAA GTGCCGGGGC AGGATCTCCT GTCATCTCAC CTTGCTCCTG CCGAGAAAGT 1000
             1001 ATCCATCATG GCTGATGCAA TGCGGCGGCT GCATACGCTT GATCCGGCTA CCTGCCCATT CGACCACCAA GCGAAACATC GCATCGAGCG AGCACGTACT 1100
             1101 CGGATGGAAG CCGGTCTTGT CGATCAGGAT GATCTGGACG AAGAGCATCA GGGGCTCGCG CCAGCCGAAC TGTTCGCCAG GCTCAAGGCG CGCATGCCCG 1200
             1201 ACGGCGAGGA TCTCGTCGTG ACCCATGGCG ATGCCTGCTT GCCGAATATC ATGGTGGAAA ATGGCCGCTT TTCTGGATTC ATCGACTGTG GCCGGCTGGG 1300
             1301 TGTGGCGGAC CGCTATCAGG ACATAGCGTT GGCTACCCGT GATATTGCTG AAGAGCTTGG CGGCGAATGG GCTGACCGCT TCCTCGTGCT TTACGGTATC 1400
             1401 GCCGCTCCCG ATTCGCAGCG CATCGCCTTC TATCGCCTTC TTGACGAGTT CTTCTGAGTT TAAACAGACC ACAACGGTTT CCCTCTAGCG GGATCAATTC 1500
             1501 CGCCCCTCTC CCTCCCCCCC CCCTAACGTT ACTGGCCGAA GCCGCTTGGA ATAAGGCCGG TGTGCGTTTG TCTATATGTT ATTTTCCACC ATATTGCCGT 1600
             1601 CTTTTGGCAA TGTGAGGGCC CGGAAACCTG CGCCTGTCTT CTTGACGAGC ATTCCTAGGG GTCTTTCCCC TCTCGCCAAA GGAATGCAAG GTCTGTTGAA 1700
             1701 TGTCGTGAAG GAAGCAGTTC CTCTGGAAGC TTCTTGAAGA CAAACAACGT CTGTAGCGAC CCTTTGCAGG CAGCGGAACC CCCCACCTGG CGACAGGTGC 1800
             1801 CTCTGCGGCC AAAGCCACG TGTATAAGAT ACACCTGCAA AGGCGGCACA ACCCCAGTGC CACGTTGTGA GTTGGATAGT TGTGGAAAGA GTCAAATGGC 1900
             1901 TCTCCTCAAG CGTATTCAAC AAGGGGCTGA AGGATGCCCA GAAGGTACCC CATTGTATGG GATCTGATCT GGGGCCTCGG TGCACATGCT TTACATGTGT 2000
             2001 TTAGTCGAGG TTAAAAAACG TCTAGGCCCC CCGAACCACG GGGACGTGGT TTTCCTTTGA AAAACACGAT AATACCATGG CGCCCATCAC GGCGTACGCC 2100
             2101 CAGCAGACGA GAGGCCTCCT AGGGTGTATA ATCACCAGCC TGACTGGCCG GGACAAAAAC CAAGTGGAGG GTGAGGTCCA GATCGTGTCA ACTGCTACCC 2200
             2201 AAACCTTCCT GGCAACGTGC ATCAATGGGG TATGCTGGAC TGTCTACCAC GGGGCCGGAA CGAGGACCAT CGCATCACCC AAGGGTCCTG TCATCCAGAT 2300
             2301 GTATACCAAT GTGGACCAAG ACCTTGTGGG CTGGCCCGCT CCTCAAGGTT CCCGCTCATT GACACCCTGT ACCTGCGGCT CCTCGGACCT TTACCTGGTC 2400
             2401 ACGAGGCACG CCGATGTCAT TCCCGTGCGC CGGCGAGGTG ATAGCAGGGG TAGCCTGCTT TCGCCCCGGC CCATTTCCTA CTTGAAAGGC TCCTCGGGGG 2500
             2501 GTCCGCTGTT GTGCCCCGCG GGACACGCCG TGGGCCTATT CAGGGCCGCG GTGTGCACCC GTGGAGTGGC TAAAGCGGTG GACTTTATCC CTGTGGAGAA 2600
             2601 CCTAGGGACA ACCATGAGAT CCCCGGTGTT CACGGACAAC TCCTCTCCAC CAGCAGTGCC CCAGAGCTTC CAGGTGGCCC ACCTGCATGC TCCCACCGGC 2700
             2701 AGCGGTAAGA GCACCAAGGT CCCGGCTGCG TACGCAGCCC AGGGCTACAA GGTGTTGGTG CTCAACCCCT CTGTTGCTGC AACGCTGGGC TTTGGTGCTT 2800
             2801 ACATGTCCAA GGCCCATGGG GTTGATCCTA ATATCAGGAC CGGGGTGAGA ACAATTACCA CTGGCAGCCC CATCACGTAC TCCACCTACG GCAAGTTCCT 2900
             2901 TGCCGACGGC GGGTGCTCAG GAGGTGCTTA TGACATAATA ATTTGTGACG AGTGCCACTC CACGGATGCC ACATCCATCT TGGGCATCGG CACTGTCCTT 3000
             3001 GACCAAGCAG AGACTGCGGG GGCGAGACTG GTTGTGCTCG CCACTGCTAC CCCTCCGGGC TCCGTCACTG TGTCCCATCC TAACATCGAG GAGGTTGCTC 3100
             3101 TGTCCACCAC CGGAGAGATC CCCTTTTACG GCAAGGCTAT CCCCCTCGAG GTGATCAAGG GGGGAAGACA TCTCATCTTC TGCCACTCAA AGAAGAAGTG 3200
             3201 CGACGAGCTC GCCGCGAAGC TGGTCGCATT GGGCATCAAT GCCGTGGCCT ACTACCGCGG TCTTGACGTG TCTGTCATCC CGACCAGCGG CGATGTTGTC 3300
             3301 GTCGTGTCGA CCGATGCTCT CATGACTGGC TTTACCGGCG ACTTCGACTC TGTGATAGAC TGCAACACGT GTGTCACTCA GACAGTCGAT TTCAGCCTTG 3400
             3401 ACCCTACCTT TACCATTGAG ACAACCACGC TCCCCCAGGA TGCTGTCTCC AGGACTCAAC GCCGGGGCAG GACTGGCAGG GGGAAGCCAG GCATCTATAG 3500
             3501 ATTTGTGGCA CCGGGGGAGC GCCCCTCCGG CATGTTCGAC TCGTCCGTCC TCTGTGAGTG CTATGACGCG GGCTGTGCTT GGTATGAGCT CACGCCCGCC 3600
             3601 GAGACTACAG TTAGGCTACG AGCGTACATG AACACCCCGG GGCTTCCCGT GTGCCAGGAC CATCTTGAAT TTTGGGAGGG CGTCTTTACG GGCCTCACTC 3700
             3701 ATATAGATGC CCACTTTTTA TCCCAGACAA AGCAGAGTGG GGAGAACTTT CCTTACCTGG TAGCGTACCA AGCCACCGTG TGCGCTAGGG CTCAAGCCCC 3800
             3801 TCCCCCATCG TGGGACCAGA TGTGGAAGTG TTTGATCCGC CTTAAACCCA CCCTCCATGG GCCAACACCC CTGCTATACA GACTGGGCGC TGTTCAGAAT 3900
             3901 GAAGTCACCC TGACGCACCC AATCACCAAA TACATCATGA CATGCATGTC GGCCGACCTG GAGGTCGTCA CGAGCACCTG GGTGCTCGTT GGCGGCGTCC 4000
             4001 TGGCTGCTCT GGCCGCGTAT TGCCTGTCAA CAGGCTGCGT GGTCATAGTG GGCAGGATCG TCTTGTCCGG GAAGCCGGCA ATTATACCTG ACAGGGAGGT 4100
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Fig. 12A-2

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4101 TCTCTACCAG GAGTTCGATG AGATGGAAGA GTGCTCTCAG CACTTACCGT ACATCGAGCA AGGGATGATG CTCGCTGAGC AGTTCAAGCA GAAGGCCCTC 4200
4201 GGCCTCCTGC AGACCGCGTC CCGCCATGCA GAGGTTATCA CCCCTGCTGT CCAGACCAAC TGGCAGAAAC TCGAGGTCTT TTGGGCGAAG CACATGTGGA 4300
4301 ATTTCATCAG TGGGATACAA TACTTGGCGG GCCTGCTGGT AACCCCGCCA TTGCTTCATT GATGGCTTTT ACAGCTGCCG TCACCAGCCC 4400
4401 ACTAACCACT GGCCAAACCC TCCTCTTCAA CATATTGGGG GGGTGGGTGG CTGCCCAGCT CGCCGCCCCC GGTGCCGCTA CTGCCTTTGT GGGTGCTGGC 4500
4501 CTAGCTGGCG CCGCCATCGG CAGCGTTGGA CTGGGGAAGG TCCTCGTGGA CATTCTTGCA GGGTATGGCG CGGGCGTGGC GGGAGCTCTT GTAGCATTCA 4600
4601 AGATCATGAG CGGTGAGGTC CCCTCCACGG AGGACCTGGT CAATCTGCTG CCCGCCATCC TCTCGCCTGG AGCCCTTGTA GTCGGTGTGG TCTGCGCAGC 4700
4701 AATACTGCGC CGGCACGTTG GCCCGGGCGA GGGGGCAGTG CAATGGATGA ACCGGCTAAT AGCCTTCGCC TCCCGGGGGA ACCATGTTTC CCCCACGCAC 4800
4801 TACGTGCCGG AGAGCGATGC AGCCGCCCGC GTCACTGCCA TACTCAGCAG CCTCACTGTA ACCCAGCTCC TGAGGCGACT GCATCAGTGG ATAAGCTCGG 4900
4901 AGTGTACCAC TCCATGCTCC GGTTCCTGGC TAAGGGACAT CTGGGACTGG ATATGCGAGG TGCTGAGCGA CTTTAAGACC TGGCTGAAAG CCAAGCTCAT 5000
5001 GCCACAACTG CCTGGGATTC CCTTTGTGTC CTGCCAGCGC GGGTATAGGG GGGTCTGGCG AGGAGACGGC ATTATGCACA CTCGCTGCCA CTGTGGAGCT 5100
5101 GAGATCACTG GACATGTCAA AAACGGGACG ATGAGGATCG TCGGTCCTAG GACCTGCAGG AACATGTGGA GTGGGACGTT CCCCATTAAC GCCTACACCA 5200
5201 CGGGCCCCTG TACTCCCCTT CCTGCGCCGA ACTATAAGTT CGCGCTGTGG AGGGTGTCTG CAGAGGAATA CGTGGAGATA AGGCGGGTGG GGGACTTCCA 5300
5301 CTACGTATCG GGTATGACTA CTGACAATCT TAAATGCCCG TGCCAGATCC CATCGCCCGA ATTTTTCACA GAATTGGACG GGGTGCGCCT ACACAGGTTT 5400
5401 GCGCCCCCTT GCAAGCCCTT GCTGCGGGAG GAGGTATCAT TCAGAGTAGG ACTCCACGAG TACCCGGTGG GGTCGCAATT ACCTTGCGAG CCCGAACCGG 5500
5501 ACGTAGCCGT GTTGACGTCC ATGCTCACTG ATCCCTCCCA TATAACAGCA GAGGCGGCCG GGAGAAGGTT GGCGAGAGGG TCACCCCCTT CTATGGCCAG 5600
5601 CTCCTCGGCT AGCCAGCTGT CCGCTCCATC TCTCAAGGCA ACTTGCACCG CCAACCATGA CTCCCCTGAC GCCGAGCTCA TAGAGGCTAA CCTCCTGTGG 5700
5701 AGGCAGGAGA TGGGCGGCAA CATCACCAGG GTTGAGTCAG AGAACAAAGT GGTGATTCTG GACTCCTTCG ATCCGCTTGT GGCAGAGGAG GATGAGCGGG 5800
5801 AGGTCTCCGT ACCTGCAGAA ATTCTGCGGA AGTCTCGGAG ATTCGCCCGG GCCCTGCCCG GCCGGACTAC AACCCCCGC TAGTAGAGAC 5900
5901 GTGGAAAAAG CCTGACTACG AACCACCTGT GGTCCATGGC TGCCCGCTAC CACCTCCACG GTCCCCTCCT GTGCCTCCGC CTCGGAAAAA GCGTACGGTG 6000
6101 CATCCTCTGA GCCCGCCCCT TCTGGCTGCC CCCCCGACTC CGACGTTGAG TCCTATTCTT CCATGCCCCC CCTGGAGGGG GAGCCTGGGG ATCCGGATCT 6200
6201 CAGCGACGGG TCATGGTCGA CGGTCAGTAG TGGGGCCGAC ACGGAAGATG TCGTGTGCTG CTCAATGTCT TATTCCTGGA CAGGCGCACT CGTCACCCCG 6300
6301 TGCGCTGCGG AAGAACAAAA ACTGCCCATC AACGCACTGA GCAACTCGTT GCTACGCCAT CACAATCTGG TGTATTCCAC CACTTCACGC AGTGCTTGCC 6400
6401 AAAGGCAGAA GAAAGTCACA TTTGACAGAC TGCAAGTTCT GGACAGCCAT TACCAGGACG TGCTCAAGGA GGTCAAAGCA GCGGCGTCAA AACTGAAGGC 6500
6501 TAACTTGCTA TCCGTAGAGG AAGCTTGCAG CCTGACGCCC CCACATTCAG CCAAATCCAA GTTTGGCTAT GGGGCAAAAG ACGTCCGTTG CCATGCCAGA 6600
6601 AAGGCCGTAG CCCACATCAA CTCCGTGTGG AAAGACCTTC TGGAAGACAG TGTAACACCA ATAGACACTA CCATCATGGC CAAGAACGAG GTTTTCTGCG 6700
6701 TTCAGCCTGA GAAGGGGGGT CGTAAGCCAG CTCGTCTCAT CGTGTTCCCC GACCTGGGCG TGCGCGTGTG CGAGAAGATG GCCCTGTACG ACGTGGTTAG 6800
6801 CAAGCTCCCC CTGGCCGTGA TGGGAAGCTC CTACGGATTC CAATACTCAC CAGGACAGCG GGTTGAATTC CTCGTGCAAG CGTGGAAGTC CAAGAAGACC 6900
6901 CCGATGGGGT TCTCGTATGA TACCCGCTGT TTTGACTCCA CAGTCACTGA GAGCGACATC CGTACGGAGG AGGCAATTTA CCAATGTTGT GACCTGGACC 7000
7001 CCCAAGCCCG CGTGGCCATC AAGTCCCTCA CTGAGAGGCT TTATGTTGGG GGCCCTCTTA CCAATTCAAG GGGGGAAAAC TGCGGCTACC GCAGGTGCCG 7100
7101 CGCGAGCGGC GTACTGACAA CTAGCTGTGG TAACACCCTC ACTTGCTACA TCAAGGCCCG GGCAGCCTGT CGAGCCGCAG GGCTCCAGGA CTGCACCATG 7200
7201 CTCGTGTGTG GCGACGACTT AGTCGTTATC TGTGAAAGTG CGGGGGTCCA GGAGGACGCG GCGAGCCTGA GAGCCTTCAC GGAGGCTATG ACCAGGTACT 7300
7301 CCGCCCCCCC CGGGGACCCC CCACAACCAG AATACGACTT GGAGCTTATA ACATCATGCT CCTCCAACGT GTCAGTCGCC CACGACGGCG CTGGAAAGAG 7400
7401 GGTCTACTAC CTTACCCGTG ACCCTACAAC CCCCCTCGCG AGAGCCGCGT GGGAGACAGC AAGACACACT CCAGTCAATT CCTGGCTAGG CAACATAATC 7500
7501 ATGTTTGCCC CCACACTGTG GGCGAGGATG ATACTGATGA CCCATTTCTT TAGCGTCCTC ATAGCCAGGG ATCAGCTTGA ACAGGCTCTT AACTGTGAGA 7600
7601 TCTACGGAGC CTGCTACTCC ATAGAACCAC TGGATCTACC TCCAATCATT CAAAGACTCC ATGGCCTCAG CGCATTTTCA CTCCACAGTT ACTCTCCAGG 7700
7701 TGAAATCAAT AGGGTGGCCG CATGCCTCAG AAAACTTGGG GTCCCGCCCT TGCGAGCTTG GAGACACCGG GCCCGGAGCG TCCGCGCTAG GCTTCTGTCC 7800
7801 AGAGGAGGCA GGGCTGCCAT ATGTGGCAAG TACCTCTTCA ACTGGGCAGT AAGAACAAAG CTCAAACTCA CTCCAATAGC GGCCGCTGGC CGGCTGGACT 7900
7901 TGTCCGGTTG GTTCACGGCT GGCTACAGCG GGGGAGACAT TTATCACAGC GTGTCTCATG CCCGGCCCCG CTGGTTCTGG TTTTGCCTAC TCCTGCTCGC 8000
8001 TGCAGGGGTA GGCATCTACC TCCTCCCCAA CCGATGAAGG TTGGGGTAAA CACTCCGGCC TCTTAAGCCA TTTCCTGTTT TTTTTTTTTT TTTTTTTTTT 8100
8101 TTTTTCTTTT TTTTTTCTTT TCCTTTCCTT CTTTTTTTTC CCTTCTTTAA TGGTGGCTCC ATCTTAGCCC TAGTCACGGC TAGCTGTGAA 8200
8201 AGGTCCGTGA GCCGCATGAC TGCAGAGAGT GCTGATACTG GCCTCTCTGC AGATCATGTG GGTCGGCATG GCATCTCCAC CTCCTCGCGG TCCGACCTGG 8300
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Fig. 12A-3

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8301  GCATCCGAAG GAGGACGCAC GTCCACTCGG ATGGCTAAGG GAGTCTAGAC TGGAATTCGT CGACGAGCTC CCTATAGTGA GTCGTATTAG AGGCCGACTT 8400
8401  GGCCAAATTC GTAATCATGG TCATAGCTGT TTCCTGTGTG AAATTGTTAT CCGCTCACAA TTCCACACAA CATACGAGCC GGAAGCATAA AGTGTAAAGC 8500
8501  CTGGGGTGCC TAATGAGTGA GCTAACTCAC ATTAATTGCG TTGCGCTCAC TGCCCGCTTT CCAGTCGGGA AACCTGTCGT GCCAGCTGCA TTAATGAATC 8600
8601  GGCCAACGCG CGGGGAGAGG CGGTTTGCGT ATTGGGCGCT CTTCCGCTTC CTCGCTCACT GACTCGCTGC GCTCGGTCGT TCGGCTGCGG CGAGCGGTAT 8700
8701  CAGCTCACTC AAAGGCGGTA ATACGGTTAT CCACAGAATC AGGGGATAAC GCAGGAAAGA ACATGTGAGC AAAAGGCCAG CAAAAGGCCA GGAACCGTAA 8800
8801  AAAGGCCGCG TTGCTGGCGT TTTTCCATAG GCTCCGCCCC CCTGACGAGC ATCACAAAAA TCGACGCTCA AGTCAGAGGT GGCGAAACCC GACAGGACTA 8900
8901  TAAAGATACC AGGCGTTTCC CCCTGGAAGC TCCCTCGTGC GCTCTCCTGT TCCGACCCTG CCGCTTACCG GATACCTGTC CGCCTTTCTC CCTTCGGGAA 9000
9001  GCGTGGCGCT TTCTCATAGC TCACGCTGTA GGTATCTCAG TTCGGTGTAG GTCGTTCGCT CCAAGCTGGG CTGTGTGCAC GAACCCCCCG TTCAGCCCGA 9100
9101  CCGCTGCGCC TTATCCGGTA ACTATCGTCT TGAGTCCAAC CCGGTAAGAC ACGACTTATC GCCACTGGCA GCAGCCACTG GTAACAGGAT TAGCAGAGCG 9200
9201  AGGTATGTAG GCGGTGCTAC AGAGTTCTTG AAGTGGTGGC CTAACTACGG CTACACTAGA AGGACAGTAT TTGGTATCTG CGCTCTGCTG AAGCCAGTTA 9300
9301  CCTTCGGAAA AAGAGTTGGT AGCTCTTGAT CCGGCAAACA AACCACCGCT GGTAGCGGTG GTTTTTTGT TTGCAAGCAG CAGATTACGC GCAGAAAAAA 9400
9401  AGGATCTCAA GAAGATCCTT TGATCTTTTC TACGGGGTCT GACGCTCAGT GGAACGAAAA CTCACGTTAA GGGATTTTGG TCATGAGATT ATCAAAAAGG 9500
9501  ATCTTCACCT AGATCCTTTT AAATTAAAAA TGAAGTTTTA AATCAATCTA AAGTATATAT GAGTAAACTT GGTCTGACAG TTACCAATGC TTAATCAGTG 9600
9601  AGGCACCTAT CTCAGCGATC TGTCTATTTC GTTCATCCAT AGTTGCCTGA CTCCCCGTCG TGTAGATAAC TACGATACGG GAGGGCTTAC CATCTGGCCC 9700
9701  CAGTGCTGCA ATGATACCGC GAGACCCACG CTCACCGGCT CCAGATTTAT CAGCAATAAA CCAGCCAGCC GGAAGGGCCG AGCGCAGAAG TGGTCCTGCA 9800
9801  ACTTTATCCG CCTCCATCCA GTCTATTAAT TGTTGCCGGG AAGCTAGAGT AAGTAGTTCG CCAGTTAATA GTTTGCGCAA CGTTGTTGCC ATTGCTACAG 9900
9901  GCATCGTGGT GTCACGCTCG TCGTTTGGTA TGGCTTCATT CAGCTCCGGT TCCCAACGAT CAAGGCGAGT TACATGATCC CCCATGTTGT GCAAAAAAGC 10000
10001 GGTTAGCTCC TTCGGTCCTC CGATCGTTGT CAGAAGTAAG TTGGCCGCAG TGTTATCACT CATGGTTATG GCAGCACTGC ATAATTCTCT TACTGTCATG 10100
10101 CCATCCGTAA GATGCTTTTC TGTGACTGGT GAGTACTCAA CCAAGTCATT CTGAGAATAG TGTATGCGGC GACCGAGTTG CTCTTGCCCG GCGTCAATAC 10200
10201 GGGATAATAC CGCGCCACAT AGCAGAACTT TAAAAGTGCT CATCATTGGA AAACGTTCTT CGGGGCGAAA ACTCTCAAGG ATCTTACCGC TGTTGAGATC 10300
10301 CAGTTCGATG TAACCCACTC GTGCACCCAA CTGATCTTCA GCATCTTTTA CTTTCACCAG CGTTTCTGGG TGAGCAAAAA CAGGAAGGCA AAATGCCGCA 10400
10401 AAAAAGGGAA TAAGGGCGAC ACGGAAATGT TGAATACTCA TACTCTTCCT TTTTCAATAT TATTGAAGCA TTTATCAGGG TTATTGTCTC ATGAGCGGAT 10500
10501 ACATATTTGA ATGTATTTAG AAAAATAAAC AAATAGGGGT TCCGCGCACA TTTCCCCGAA AAGTGCCACC TGACGCGCCC TGTAGCGGCG CATTAAGCGC 10600
10601 GGCGGGTGTG GTGGTTACGC GCAGCGTGAC CGCTACACTT GCCAGCGCCC TAGCGCCCGC TCCTTTCGCT TTCTTCCCTT CCTTTCTCGC CACGTTCGCC 10700
10701 GGCTTTCCCC GTCAAGCTCT AAATCGGGGC ATCCCTTTAG GGTTCCGATT TAGTGCTTTA CGGCACCTCG ACCCCAAAAA ACTTGATTAG GGTGATGGTT 10800
10801 CACGTAGTGG GCCATCGCCC TGATAGACGG TTTTTCGCCC TTTGACGTTG GAGTCCACGT TCTTTAATAG TGGACTCTTG TTCCAAACTG GAACAACACT 10900
10901 CAACCCTATC TCGGTCTATT CTTTTGATTT ATAAGGGATT TTGCCGATTT CGGCCTATTG GTTAAAAAAT GAGCTGATTT AACAAAAATT TAACGCGAAT 11000
11001 TTTAACAAAA TATTAACGTT ACAATTTTCC CCATTCGCCA TTCAGGCTGC GCAACTGTTG GGAAGGGCGA TCGGTGCGGG CCTCTTCGCT 11100
11101 ATTACGCCAG CTGGCGAAAG GGGGATGTGC TGCAAGGCGA TTAAGTTGGG TAACGCCAGG GTTTTCCCAG TCACGACGTT GTAAAACGAC GGCCAGTGCC 11200
11201 AAGCTGACTT GGTCAGCGGC CGCTAATACG ACTCACTATA
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Fig. 12B-1

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2077/11
ATG GCG CCC ATC ACG GCG TAC GCC CAG CAG ACG AGA GGC CTC CTA GGG TGT ATA ATC ACC
M   A   P   I   T   A   Y   A   Q   Q   T   R   G   L   L   G   C   I   I   T

2107/21
AGC CTG ACT GGC CGG GAC AAA AAC CAA GTG
S   L   T   G   R   D   K   N   Q   V

2137/31
GAG GGT GAG GTC CAG ATC GTG TCA ACT GCT ACC CAA ACC TTC CTG GCA ACG TGC ATC AAT
E   G   E   V   Q   I   V   S   T   A   T   Q   T   F   L   A   T   C   I   N

2167/41
GGG GTA TGC TGG ACT GTC TAC CAC GGG GCC
G   V   C   W   T   V   Y   H   G   A

2197/51
GGA ACG AGG ACC ATC GCA TCA CCC AAG GGT CCT GTC ATC CAG ATG TAT ACC AAT GTG GAC
G   T   R   T   I   A   S   P   K   G   P   V   I   Q   M   Y   T   N   V   D

2227/61
CAA GAC CTT GTG GGC TGG CCC GCT CCT CAA
Q   D   L   V   G   W   P   A   P   Q

2257/71
GGA ACG AGG ACC ATC GCA TCA CCC AAG GGT CCT GTC ATC CAG ATG TAT ACC AAT GTG GAC
G   T   R   T   I   A   S   P   K   G   P   V   I   Q   M   Y   T   N   V   D

2287/81
CAA GAC CTT GTG GGC TGG CCC GCT CCT CAA
Q   D   L   V   G   W   P   A   P   Q

2317/91
GGT TCC CGC TCA TTG ACA CCC TGT ACC TGC GGC TCC TCG GAC CTT TAC CTG GTC ACG AGG
G   S   R   S   L   T   P   C   T   C   G   S   S   D   L   Y   L   V   T   R

2347/101
CAC GCC GAT GTC CCC GTG CGC CGG CGA
H   A   D   V   P   V   R   R   R

2377/111
GGT TCC CGC TCA TTG ACA CCC TGT ACC TGC GGC TCC TCG GAC CTT TAC CTG GTC ACG AGG
G   S   R   S   L   T   P   C   T   C   G   S   S   D   L   Y   L   V   T   R

2407/121
CAC GCC GAT GTC CCC GTG CGC CGG CGA
H   A   D   V   P   V   R   R   R

2437/131
GGT GAT AGC AGG GGT AGC CTG CTT TCG CCC CGG CCC ATT TCC TAC TTG AAA GGC TCC TCG
G   D   S   R   G   S   L   L   S   P   R   P   I   S   Y   L   K   G   S   S

2467/141
GGG GGT CCG CTG TTG TGC CCC GCG GGA GCA CTG
G   G   P   L   L   C   P   A   G   H

2497/151
GGT GAT AGC AGG GGT AGC CTG CTT TCG CCC CGG CCC ATT TCC TAC TTG AAA GGC TCC TCG
G   D   S   R   G   S   L   L   S   P   R   P   I   S   Y   L   K   G   S   S

2527/161
GGG GGT CCG CTG TTG TGC CCC GCG GGA GCA CTG
G   G   P   L   L   C   P   A   G   H

2557/161
GCC GTG GGC CTA TTC AGG GCC GCG GTG TGC ACC CGT GGA GTG GCT AAA GCG GTG GAC TTT
A   V   G   L   F   R   A   A   V   C   T   R   G   V   A   K   A   V   D   F

2587/171
ATC CCT GTG GAG AAC CTA GGG ACA ACC ATG
I   P   V   E   N   L   G   T   T   M

2617/181
AGA TCC CCG GTG TTC ACG GAC AAC TCC TCT CCA CCA GCA GTG CCC CAG AGC TTC CAG GTG
R   S   P   V   F   T   D   N   S   S   P   P   A   V   P   Q   S   F   Q   V

2647/191
GCC CAC CTG CAT CAC ACC GGC AGC GGT
A   H   L   H   H   T   G   S   G

2677/201
GCC GTG GGC CTA TTC AGG GCC GCG GTG TGC ACC CGT GGA GTG GCT AAA GCG GTG GAC TTT
A   V   G   L   F   R   A   A   V   C   T   R   G   V   A   K   A   V   D   F

2707/211
ATC CCT GTG GAG AAC CTA GGG ACA ACC ATG
I   P   V   E   N   L   G   T   T   M

2737/221
AAG AGC ACC AAG GTC CCG GCT GCG TAC GCA GCC CAG GGC TAC AAG GTG TTG GTG CTC AAC
K   S   T   K   V   P   A   A   Y   A   A   Q   G   Y   K   V   L   V   L   N

2767/231
CCC TCT GTT GCT GCA ACG CTG GGC TTT GGT
P   S   V   A   T   L   G   F   G

2797/241
GCT TAC ATG TCC AAG GCC CAT GGG GTT GAT CCT AAT ATC AGG ACC GGG GTG AGA ACA ATT
A   Y   M   S   K   A   H   G   V   D   P   N   I   R   T   G   V   R   T   I

2827/251
ACC ACT GGC AGC CCC ATC ACG TAC TCC ACC
T   T   G   S   P   I   T   Y   S   T

2857/261
GCT TAC ATG TCC AAG GCC CAT GGG GTT GAT CCT AAT ATC AGG ACC GGG GTG AGA ACA ATT
A   Y   M   S   K   A   H   G   V   D   P   N   I   R   T   G   V   R   T   I

2887/271
ACC ACT GGC AGC CCC ATC ACG TAC TCC ACC
T   T   G   S   P   I   T   Y   S   T

2917/281
TAC GGC AAG TTC CTT GCC GAC GGC GGG TGC TCA GGA GGT GCT TAT GAC ATA ATA ATT TGT
Y   G   K   F   L   A   D   G   G   C   S   G   G   A   Y   D   I   I   I   C

2947/291
GAC GAG TGC CAC TCC ACG GAT GCC ACA TCC
D   E   C   H   S   T   D   A   T   S

2977/301
ATC TTG GGC ATC GGC ACT GTC CTT GAC CAA GCA GAG ACT GCG GGG GCG AGA CTG GTT GTG
I   L   G   I   G   T   V   L   D   Q   A   E   T   A   G   A   R   L   V   V

3007/311
CTC GCC ACT GCT ACC CCT CCG GGC TCC GTC
L   A   T   A   T   P   P   G   S   V

3037/321
ATC TTG GGC ATC GGC ACT GTC CTT GAC CAA GCA GAG ACT GCG GGG GCG AGA CTG GTT GTG
I   L   G   I   G   T   V   L   D   Q   A   E   T   A   G   A   R   L   V   V

3067/331
CTC GCC ACT GCT ACC CCT CCG GGC TCC GTC
L   A   T   A   T   P   P   G   S   V

3097/341
ACT GTG TCC CAT CCT AAC ATC GAG GAG GTT GCT CTG TCC ACC ACC GGA GAG ATC CCC TTT
T   V   S   H   P   N   I   E   E   V   A   L   S   T   T   G   E   I   P   F

3127/351
TAC GGC AAG GCT ATC CCC CTC GAG GTG ATC
Y   G   K   A   I   P   L   E   V   I

3157/361
ACT GTG TCC CAT CCT AAC ATC GAG GAG GTT GCT CTG TCC ACC ACC GGA GAG ATC CCC TTT
T   V   S   H   P   N   I   E   E   V   A   L   S   T   T   G   E   I   P   F

3187/371
TAC GGC AAG GCT ATC CCC CTC GAG GTG ATC
Y   G   K   A   I   P   L   E   V   I

3217/381
AAG CTG GTC GCA TTG GGC ATC AAT GCC GTG
K   L   V   A   L   G   I   N   A   V

3247/391
AAG GGG GGA AGA CAT CTC ATC TTC TGC CAC TCA AAG AAG AAG TGC GAC GAG CTC GCC GCG
K   G   G   R   H   L   I   F   C   H   S   K   K   K   C   D   E   L   A   A

3277/401
AAG CTG GTC GCA TTG GGC ATC AAT GCC GTG
K   L   V   A   L   G   I   N   A   V

3307/411
GCC TAC TAC CGC GGT CTT GAC GTG TCT GTC ATC CCG ACC AGC GGC GAT GTT GTC GTG GTG
A   Y   Y   R   G   L   D   V   S   V   I   P   T   S   G   D   V   V   V   V

3337/421
TCG ACC GAT GCT CTC ACT TTC ACC ATT GAG ACA ACC
S   T   D   A   L   M   T   F   T   I   E   T   T

3367/431
GGC GAC TTC GAC TCT GTG ATA GAC TGC AAC ACG TGT GTC ACT CAG ACA GTC GAT TTC AGC
G   D   F   D   S   V   I   D   C   N   T   C   V   T   Q   T   V   D   F   S

3397/441
CTT GAC CCT ACC TTT ACC ATT GAG ACA ACC
L   D   P   T   F   T   I   E   T   T
```

Fig. 12B-2

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3427/451                                    3457/461                                    3487/471
ACG CTC CCC CAG GAT GCT GTC TCC AGG ACT CAA CGC CGG GGC AGG ACT GGC AGG GGG AAG CCA GGC ATC TAT AGA TTT GTG GCA CCG GGG
T   L   P   Q   D   A   V   S   R   T   Q   R   R   G   R   T   G   R   G   K   P   G   I   Y   R   F   V   A   P   G
3517/481                                    3547/491                                    3577/501
GAG CGC CCC TCC GGC ATG TTC GAC TCG TCC GTC CTC TGT GAG TGC TAT GAC GCG GGC TGT GCT TGG TAT GAG CTC ACG CCC GCC GAG ACT
E   R   P   S   G   M   F   D   S   S   V   L   C   E   C   Y   D   A   G   C   A   W   Y   E   L   T   P   A   E   T
3607/511                                    3637/521                                    3667/531
ACA GTT AGG CTA CGA GCG TAC ATG AAC ACC CCG GGG CTT CCC GTG TGC CAG GAC CAT CTT GAA TTT TGG GAG GGC GTC TTT ACG GGC CTC
T   V   R   L   R   A   Y   M   N   T   P   G   L   P   V   C   Q   D   H   L   E   F   W   E   G   V   F   T   G   L
3697/541                                    3727/551                                    3757/561
ACT CAT ATA GAT GCC CAC TTT TTA TCC CAG ACA AAG CAG AGT GGG GAG AAC TTT CCT TAC CTG GTA GCG TAC CAA GCC ACC GTG TGC GCT
T   H   I   D   A   H   F   L   S   Q   T   K   Q   S   G   E   N   F   P   Y   L   V   A   Y   Q   A   T   V   C   A
3787/571                                    3817/581                                    3847/591
AGG GCT CAA GCC CCT CCC CCA TCG TGG GAC CAG ATG TGG AAG TGT TTG ATC CGC CTT AAA CCC ACC CTC CAT GGG CCA ACA CCC CTG CTA
R   A   Q   A   P   P   P   S   W   D   Q   M   W   K   C   L   I   R   L   K   P   T   L   H   G   P   T   P   L   L
3877/601                                    3907/611                                    3937/621
TAC AGA CTG GGC GCT GTT CAG AAT GAA GTC ACC CTG ACG CAC CCA ATC ACC AAA TAC ATC ATG ACA TGC ATG TCG GCC GAC CTG GAG GTC
Y   R   L   G   A   V   Q   N   E   V   T   L   T   H   P   I   T   K   Y   I   M   T   C   M   S   A   D   L   E   V
3967/631                                    3997/641                                    4027/651
GTC ACG AGC ACC TGG GTG CTC GTT GGC GGC GTC CTG GCT GCT CTG GCC GCG TAT TGC CTG TCA ACA GGC TGC GTG GTC ATA GTG GGC AGG
V   T   S   T   W   V   L   V   G   G   V   L   A   A   L   A   A   Y   C   L   S   T   G   C   V   V   I   V   G   R
4057/661                                    4087/671                                    4117/681
ATC GTC TTG TCC GGG AAG CCG GCA ATT ATA CCT GAC AGG GAG GTT CTC TAC CAG GAG TTC GAT GAG ATG GAA GAG TGC TCT CAG CAC TTA
I   V   L   S   G   K   P   A   I   I   P   D   R   E   V   L   Y   Q   E   F   D   E   M   E   E   C   S   Q   H   L
4147/691                                    4177/701                                    4207/711
CCG TAC ATC GAG CAA GGG ATG ATG CTC GCT GAG CAG TTC AAG CAG AAG GCC CTC GGC CTC CTG CAG ACC GCG TCC CGC CAT GCA GAG GTT
P   Y   I   E   Q   G   M   M   L   A   E   Q   F   K   Q   K   A   L   G   L   L   Q   T   A   S   R   H   A   E   V
4237/721                                    4267/731                                    4297/741
ATC ACC CCT GCT GTC CAG ACC AAC TGG CAG AAA CTC GAG GTC TTT TGG GCG AAG CAC ATG TGG AAT TTC ATC AGT GGG ATA CAA TAC TTG
I   T   P   A   V   Q   T   N   W   Q   K   L   E   V   F   W   A   K   H   M   W   N   F   I   S   G   I   Q   Y   L
4327/751                                    4357/761                                    4387/771
GCG GGC CTG TCA ACG CTG CCT GGT AAC CCC GCC ATT GCT TCA TTG ATG GCT TTT ACA GCT GCC GTC ACC AGC CCA CTA ACC ACT GGC CAA
A   G   L   S   T   L   P   G   N   P   A   I   A   S   L   M   A   F   T   A   A   V   T   S   P   L   T   T   G   Q
4417/781                                    4447/791                                    4477/801
ACC CTC CTC TTC AAC ATA TTG GGG GGG TGG GTG GCT GCC CAG CTC GCC GCC CCC GGT GCC GCT ACT GCC TTT GTG GGT GCT GGC CTA GCT
T   L   L   F   N   I   L   G   G   W   V   A   A   Q   L   A   A   P   G   A   A   T   A   F   V   G   A   G   L   A
4507/811                                    4537/821                                    4567/831
GGC GCC GCC ATC GGC AGC GTT GGA CTG GGG AAG GTC CTC GTG GAC ATT CTT GCA GGG TAT GGC GCG GGC GTG GCG GGA GCT CTT GTA GCA
G   A   A   I   G   S   V   G   L   G   K   V   L   V   D   I   L   A   G   Y   G   A   G   V   A   G   A   L   V   A
4597/841                                    4627/851                                    4657/861
TTC AAG ATC ATG AGC GGT GAG GTC CCC TCC ACG GAG GAC CTG GTC AAT CTG CTG CCC GCC ATC CTC TCG CCT GGA GCC CTT GTA GTC GGT
F   K   I   M   S   G   E   V   P   S   T   E   D   L   V   N   L   L   P   A   I   L   S   P   G   A   L   V   V   G
4687/871                                    4717/881                                    4747/891
GTG GTC TGC GCA GCA ATA CTG CGC CGG CAC GTT GGC CCG GGC GAG GGG GCA GTG CAA TGG ATG AAC CGG CTA ATA GCC TTC GCC TCC CGG
V   V   C   A   A   I   L   R   R   H   V   G   P   G   E   G   A   V   Q   W   M   N   R   L   I   A   F   A   S   R
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Fig. 12B-3

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4777/901                                    4807/911                                    4837/921
GGG AAC CAT GTT TCC CCC ACG CAC TAC GTG CCG GAG AGC GAT GCA GCC GCC CGC GTC ACT GCC ATA CTC AGC AGC CTC ACT GTA ACC CAG
G   N   H   V   S   P   T   H   Y   V   P   E   S   D   A   A   A   R   V   T   A   I   L   S   S   L   T   V   T   Q
4867/931                                    4897/941                                    4927/951
CTC CTG AGG CGA CTG CAT CAG TGG ATA AGC TCG GAG TGT ACC ACT CCA TGC TCC GGT TCC TGG CTA AGG GAC ATC TGG GAC TGG ATA TGC
L   L   R   R   L   H   Q   W   I   S   S   E   C   T   T   P   C   S   G   S   W   L   R   D   I   W   D   W   I   C
4957/961                                    4987/971                                    5017/981
GAG GTG CTG AGC GAC TTT AAG ACC TGG CTG AAA GCC AAG CTC ATG CCA CAA CTG CCT GGG ATT CCC TTT GTG TCC TGC CAG CGC GGG TAT
E   V   L   S   D   F   K   T   W   L   K   A   K   L   M   P   Q   L   P   G   I   P   F   V   S   C   Q   R   G   Y
5047/991                                    5077/1001                                   5107/1011
AGG GGG GTC TGG CGA GGA GAC GGC ATT ATG CAC ACT CGC TGC CAC TGT GGA GCT GAG ATC ACT GGA CAT GTC AAA AAC GGG ACG ATG AGG
R   G   V   W   R   G   D   G   I   M   H   T   R   C   H   C   G   A   E   I   T   G   H   V   K   N   G   T   M   R
5137/1021                                   5167/1031                                   5197/1041
ATC GTC GGT CCT AGG ACC TGC AGG AAC ATG TGG AGT GGG ACG TTC CCC ATT AAC GCC TAC ACC ACG GGC CCC TGT ACT CCC CTT CCT GCG
I   V   G   P   R   T   C   R   N   M   W   S   G   T   F   P   I   N   A   Y   T   T   G   P   C   T   P   L   P   A
5227/1051                                   5257/1061                                   5287/1071
CCG AAC TAT AAG TTC GCG CTG TGG AGG GTG TCT GCA GAG GAA TAC GTG GAG ATA AGG CGG GTG GGG GAC TTC CAC TAC GTA TCG GGT ATG
P   N   Y   K   F   A   L   W   R   V   S   A   E   E   Y   V   E   I   R   R   V   G   D   F   H   Y   V   S   G   M
5317/1081                                   5347/1091                                   5377/1101
ACT ACT GAC AAT CTT AAA TGC CCG TGC CAG ATC CCA TCG CCC GAA TTT TTC ACA GAA TTG GAC GGG GTG CGC CTA CAC AGG TTT GCG CCC
T   T   D   N   L   K   C   P   C   Q   I   P   S   P   E   F   F   T   E   L   D   G   V   R   L   H   R   F   A   P
5407/1111                                   5437/1121                                   5467/1131
CCT TGC AAG CCC TTG CTG CGG GAG GAG GTA TCA TTC AGA GTA GGA CTC CAC GAG TAC CCG GTG GGG TCG CAA TTA CCT TGC GAG CCC GAA
P   C   K   P   L   L   R   E   E   V   S   F   R   V   G   L   H   E   Y   P   V   G   S   Q   L   P   C   E   P   E
5497/1141                                   5527/1151                                   5557/1161
CCG GAC GTA GCC GTG TTG ACG TCC ATG CTC ACT GAT CCC TCC CAT ATA ACA GCA GAG GCG GCC GGG AGA AGG TTG GCG AGA GGG TCA CCC
P   D   V   A   V   L   T   S   M   L   T   D   P   S   H   I   T   A   E   A   A   G   R   R   L   A   R   G   S   P
5587/1171                                   5617/1181                                   5647/1191
CCT TCT ATG GCC AGC TCC TCG GCT AGC CAG CTG TCC GCT CCA TCT CTC AAG GCA ACT TGC ACC GCC AAC CAT GAC TCC CCT GAC GCC GAG
P   S   M   A   S   S   S   A   S   Q   L   S   A   P   S   L   K   A   T   C   T   A   N   H   D   S   P   D   A   E
5677/1201                                   5707/1211                                   5737/1221
CTC ATA GAG GCT AAC CTC CTG TGG AGG CAG GAG ATG GGC GGC AAC ATC ACC AGG GTT GAG TCA GAG AAC AAA GTG GTG ATT CTG GAC TCC
L   I   E   A   N   L   L   W   R   Q   E   M   G   G   N   I   T   R   V   E   S   E   N   K   V   V   I   L   D   S
5767/1231                                   5797/1241                                   5827/1251
TTC GAT CCG CTT GTG GCA GAG GAG GAT GAG CGG GAG GTC TCC GTA CCT GCA GAA ATT CTG CGG AAG TCT CGG AGA TTC GCC CGG GCC CTG
F   D   P   L   V   A   E   E   D   E   R   E   V   S   V   P   A   E   I   L   R   K   S   R   R   F   A   R   A   L
5857/1261                                   5887/1271                                   5917/1281
CCC GTC TGG GCG CGG CCG GAC TAC AAC CCC CCG CTA GTA GAG ACG TGG AAA AAG CCT GAC TAC GAA CCA CCT GTG GTC CAT GGC TGC CCG
P   V   W   A   R   P   D   Y   N   P   P   L   V   E   T   W   K   K   P   D   Y   E   P   P   V   V   H   G   C   P
5947/1291                                   5977/1301                                   6007/1311
CTA CCA CCT CCA CGG TCC CCT CCT GTG CCT CCG CCT CGG AAA AAG CGT ACG GTG GTC CTC ACC GAA TCA ACC CTA TCT ACT GCC TTG GCC
L   P   P   P   R   S   P   P   V   P   P   P   R   K   K   R   T   V   V   L   T   E   S   T   L   S   T   A   L   A
6037/1321                                   6067/1331                                   6097/1341
GAG CTT GCC ACC AAA AGT TTT GGC AGC TCC TCA ACT TCC GGC ATT ACG GGC GAC AAT ACG ACA ACA TCC TCT GAG CCC GCC CCT TCT GGC
E   L   A   T   K   S   F   G   S   S   S   T   S   G   I   T   G   D   N   T   T   T   S   S   E   P   A   P   S   G
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Fig. 12B-4

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6127/1351                                                   6157/1361                                                   6187/1371
TGC CCC CCC GAC TCC GAC GTT GAG TCC TAT TCT TCC ATG CCC CCC CTG GAG GGG GAG CCT GGG GAT CCG GAT CTC AGC GAC GGG TCA TGG
C   P   P   D   S   D   V   E   S   Y   S   S   M   P   P   L   E   G   E   P   G   D   P   D   L   S   D   G   S   W
6217/1381                                                   6247/1391                                                   6277/1401
TCG ACG GTC AGT AGT GGG GCC GAC ACG GAA GAT GTC GTG TGC TGC TCA ATG TCT TAT TCC TGG ACA GGC GCA CTC GTC ACC CCG TGC GCT
S   T   V   S   S   G   A   D   T   E   D   V   V   C   C   S   M   S   Y   S   W   T   G   A   L   V   T   P   C   A
6307/1411                                                   6337/1421                                                   6367/1431
GCG GAA GAA CAA AAA CTG CCC ATC AAC GCA CTG AGC AAC TCG TTG CTA CGC CAT CAC AAT CTG GTG TAT TCC ACC ACT TCA CGC AGT GCT
A   E   E   Q   K   L   P   I   N   A   L   S   N   S   L   L   R   H   H   N   L   V   Y   S   T   T   S   R   S   A
6397/1441                                                   6427/1451                                                   6457/1461
TGC CAA AGG CAG AAG AAA GTC ACA TTT GAC AGA CTG CAA GTT CTG GAC AGC CAT TAC CAG GAC GTG CTC AAG GAG GTC AAA GCA GCG GCG
C   Q   R   Q   K   K   V   T   F   D   R   L   Q   V   L   D   S   H   Y   Q   D   V   L   K   E   V   K   A   A   A
6487/1471                                                   6517/1481                                                   6547/1491
TCA AAA GTG AAG GCT AAC TTG CTA TCC GTA GAG GAA GCT TGC AGC CTG ACG CCC CCA CAT TCA GCC AAA TCC AAG TTT GGC TAT GGG GCA
S   K   V   K   A   N   L   L   S   V   E   E   A   C   S   L   T   P   P   H   S   A   K   S   K   F   G   Y   G   A
6577/1501                                                   6607/1511                                                   6637/1521
AAA GAC GTC CGT TGC CAT GCC AGA AAG GCC GTA GCC CAC ATC AAC TCC GTG TGG AAA GAC CTT CTG GAA GAC AGT GTA ACA CCA ATA GAC
K   D   V   R   C   H   A   R   K   A   V   A   H   I   N   S   V   W   K   D   L   L   E   D   S   V   T   P   I   D
6667/1531                                                   6697/1541                                                   6727/1551
ACT ACC ATC ATG GCC AAG AAC GAG GTT TTC TGC GTT CAG CCT GAG AAG GGG GGT CGT AAG CCA GCT CGT CTC ATC GTG TTC CCC GAC CTG
T   T   I   M   A   K   N   E   V   F   C   V   Q   P   E   K   G   G   R   K   P   A   R   L   I   V   F   P   D   L
6757/1561                                                   6787/1571                                                   6817/1581
GGC GTG CGC GTG TGC GAG AAG ATG GCC CTG TAC GAC GTG GTT AGC AAG CTC CCC CTG GCC GTG ATG GGA AGC TCC TAC GGA TTC CAA TAC
G   V   R   V   C   E   K   M   A   L   Y   D   V   V   S   K   L   P   L   A   V   M   G   S   S   Y   G   F   Q   Y
6847/1591                                                   6877/1601                                                   6907/1611
TCA CCA GGA CAG CGG GTT GAA TTC CTC GTG CAA GCG TGG AAG TCC AAG AAG ACC CCG ATG GGG TTC TCG TAT GAT ACC CGC TGT TTT GAC
S   P   G   Q   R   V   E   F   L   V   Q   A   W   K   S   K   K   T   P   M   G   F   S   Y   D   T   R   C   F   D
6937/1621                                                   6967/1631                                                   6997/1641
TCC ACA GTC ACT GAG AGC GAC ATC CGT ACG GAG GAG GCA ATT TAC CAA TGT TGT GAC CTG GAC CCC CAA GCC CGC GTG GCC ATC AAG TCC
S   T   V   T   E   S   D   I   R   T   E   E   A   I   Y   Q   C   C   D   L   D   P   Q   A   R   V   A   I   K   S
7027/1651                                                   7057/1661                                                   7087/1671
CTC ACT GAG AGG CTT TAT GTT GGG GGC CCT CTT ACC AAT TCA AGG GGG GAA AAC TGC GGC TAC CGC AGG TGC CGC GCG AGC GGC GTA CTG
L   T   E   R   L   Y   V   G   G   P   L   T   N   S   R   G   E   N   C   G   Y   R   R   C   R   A   S   G   V   L
7117/1681                                                   7147/1691                                                   7177/1701
ACA ACT AGC TGT GGT AAC ACC CTC ACT TGC TAC ATC AAG GCC CGG GCA GCC TGT CGA GCC GCA GGG CTC CAG GAC TGC ACC ATG CTC GTG
T   T   S   C   G   N   T   L   T   C   Y   I   K   A   R   A   A   C   R   A   A   G   L   Q   D   C   T   M   L   V
7207/1711                                                   7237/1721                                                   7267/1731
TGT GGC GAC GAC TTA GTC GTT ATC TGT GAA AGT GCG GGG GTC CAG GAG GAC GCG GCG AGC CTG AGA GCC TTC ACG GAG GCT ATG ACC AGG
C   G   D   D   L   V   V   I   C   E   S   A   G   V   Q   E   D   A   A   S   L   R   A   F   T   E   A   M   T   R
7297/1741                                                   7327/1751                                                   7357/1761
TAC TCC GCC CCC CCC GGG GAC CCC CCA CAA CCA GAA TAC GAC TTG GAG CTT ATA ACA TCA TGC TCC TCC AAC GTG TCA GTC GCC CAC GAC
Y   S   A   P   P   G   D   P   P   Q   P   E   Y   D   L   E   L   I   T   S   C   S   S   N   V   S   V   A   H   D
7387/1771                                                   7417/1781                                                   7447/1791
GGC GCT GGA AAG AGG GTC TAC TAC CTT ACC CGT GAC CCT ACA ACC CCC CTC GCG AGA GCC GCG TGG GAG ACA GCA AGA CAC ACT CCA GTC
G   A   G   K   R   V   Y   Y   L   T   R   D   P   T   T   P   L   A   R   A   A   W   E   T   A   R   H   T   P   V
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Fig. 12B-5

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7477/1801                                   7507/1811                                   7537/1821
AAT TCC TGG CTA GGC AAC ATA ATC ATG TTT GCC CCC ACA CTG TGG GCG AGG ATG ATA CTG ATG ACC CAT TTC TTT AGC GTC CTC ATA GCC
N   S   W   L   G   N   I   I   M   F   A   P   T   L   W   A   R   M   I   L   M   T   H   F   F   S   V   L   I   A
7567/1831                                   7597/1841                                   7627/1851
AGG GAT CAG CTT GAA CAG GCT CTT AAC TGT GAG ATC TAC GGA GCC TGC TAC TCC ATA GAA CCA CTG GAT CTA CCT CCA ATC ATT CAA AGA
R   D   Q   L   E   Q   A   L   N   C   E   I   Y   G   A   C   Y   S   I   E   P   L   D   L   P   P   I   I   Q   R
7657/1861                                   7687/1871                                   7717/1881
CTC CAT GGC CTC AGC GCA TTT TCA CTC CAC AGT TAC TCT CCA GGT GAA ATC AAT AGG GTG GCC GCA TGC CTC AGA AAA CTT GGG GTC CCG
L   H   G   L   S   A   F   S   L   H   S   Y   S   P   G   E   I   N   R   V   A   A   C   L   R   K   L   G   V   P
7747/1891                                   7777/1901                                   7807/1911
CCC TTG CGA GCT TGG AGA CAC CGG GCC CGG AGC GTC CGC GCT AGG CTT CTG TCC AGA GGA GGC AGG GCT GCC ATA TGT GGC AAG TAC CTC
P   L   R   A   W   R   H   R   A   R   S   V   R   A   R   L   L   S   R   G   G   R   A   A   I   C   G   K   Y   L
7837/1921                                   7867/1931                                   7897/1941
TTC AAC TGG GCA GTA AGA ACA AAG CTC AAA CTC ACT CCA ATA GCG GCC GCT GGC CGG CTG GAC TTG TCC GGT TGG TTC ACG GCT GGC TAC
F   N   W   A   V   R   T   K   L   K   L   T   P   I   A   A   A   G   R   L   D   L   S   G   W   F   T   A   G   Y
7927/1951                                   7957/1961                                   7987/1971
AGC GGG GGA GAC ATT TAT CAC AGC GTG TCT CAT GCC CGG CCC CGC TGG TTC TGG TTT TGC CTA CTC CTG CTC GCT GCA GGG GTA GGC ATC
S   G   G   D   I   Y   H   S   V   S   H   A   R   P   R   W   F   W   F   C   L   L   L   L   A   A   G   V   G   I
8017/1981                                   8047/1991                                   8077/2001
TAC CTC CTC CCC AAC CGA TGA
Y   L   L   P   N   R   *
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Fig. 13A

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   1 gccagccccc tgatgggggc gacactccac catgaatcac tcccctgtga ggaactactg
  61 tcttcacgca gaaagcgtct agccatggcg ttagtatgag tgtcgtgcag cctccaggac
 121 ccccctcccc gggagagcca tagtggtctg cggaaccggt gagtacaccg gaattgccag
 181 gacgaccggg tcctttcttg gataaacccg ctcaatgcct ggagatttgg gcgtgccccc
 241 gcaagactgc tagccgagta gtgttgggtc gcgaaaggcc ttgtggtact gcctgatagg
 301 gtgcttgcga gtgccccggg aggtctcgta gaccgtgcac catgagcacg aatcctaaac
 361 ctcaaagaaa aaccaaacgt aacaccaacc gtcgcccaca ggacgtcaag ttcccgggtg
 421 gcggtcagat cgttggtgga gtttacttgt tgccgcgcag gggccctaga ttgggtgtgc
 481 gcgcgacgag gaagacttcc gagcggtcgc aacctcgagg tagacgtcag cctatcccca
 541 aggcacgtcg gcccgagggc aggacctggg ctcagcccgg gtacccttgg cccctctatg
 601 gcaatgaggg ttgcgggtgg gcgggatggc tcctgtctcc ccgtggctct cggcctagct
 661 ggggccccac agacccccgg cgtaggtcgc gcaatttggg taaggtcatc gataccctta
 721 cgtgcggctt cgccgacctc atggggtaca taccgctcgt cggcgccccc cttggaggcg
 781 ctgccagggc cctggcgcat ggcgtccggg ttctggaaga cggcgtgaac tatgcaacag
 841 ggaaccttcc tggttgctct ttctctatct tccttctggc cctgctctct tgcctgactg
 901 tgcccgcttc agcctaccaa gtgcgcaatt cctcggggct ttaccatgtc accaatgatt
 961 gccctaactc gagtattgtg tacgaggcgg ccgatgccat cctgcacact ccggggtgtg
1021 tcccttgcgt tcgcgagggt aacgcctcga ggtgttgggt ggcggtgacc cccacggtgg
1081 ccaccaggga cggcaaactc cccacaacgc agcttcgacg tcatatcgat ctgcttgtcg
1141 ggagcgccac cctctgctcg gccctctacg tgggggacct gtgcgggtct gtctttcttg
1201 ttggtcaact gtttaccttc tctcccaggc gccactggac gacgcaagac tgcaattgtt
1261 ctatctatcc cggccatata acgggtcatc gcatggcatg ggatatgatg atgaactggt
1321 cccctacggc agcgttggtg gtagctcagc tgctccggat cccacaagcc atcatggaca
1381 tgatcgctgg tgctcactgg ggagtcctgg cgggcatagc gtatttctcc atggtgggga
1441 actgggcgaa ggtcctggta gtgctgctgc tatttgccgg cgtcgacgcg gaaacccacg
1501 tcaccggggg aaatgccggc cgcaccacgg ctgggcttgt tggtctcctt acaccaggcg
1561 ccaagcagaa catccaactg atcaacacca acggcagttg gcacatcaat agcacggcct
1621 tgaattgcaa tgaaagcctt aacaccggct ggttagcagg gctcttctat caacacaaat
1681 tcaactcttc aggctgtcct gagaggttgg ccagctgccg acgccttacc gattttgccc
1741 agggctgggg tcctatcagt tatgccaacg gaagcggcct cgacgaacgc ccctactgct
1801 ggcactaccc tccaagacct tgtggcattg tgcccgcaaa gagcgtgtgt ggcccggtat
1861 attgcttcac tcccagcccc gtggtggtgg gaacgaccga caggtcgggc gcgcctacct
1921 acagctgggg tgcaaatgat acggatgtct tcgtccttaa caacaccagg ccaccgctgg
1981 gcaattggtt cggttgtacc tggatgaact caactggatt caccaaagtg tgcggagcgc
2041 ccccttgtgt catcggaggg gtgggcaaca acaccttgct ctgccccact gattgcttcc
2101 gcaaacatcc ggaagccaca tactctcggt gcggctccgg tccctggatt acacccaggt
2161 gcatggtcga ctacccgtat aggctttggc actatccttg taccatcaat tacaccatat
2221 tcaaagtcag gatgtacgtg ggaggggtcg agcacaggct ggaagcggcc tgcaactgga
2281 cgcggggcga acgctgtgat ctggaagaca gggacaggtc cgagctcagc ccgttgctgc
2341 tgtccaccac acagtggcag gtccttccgt gttctttcac gaccctgcca gccttgtcca
2401 ccggcctcat ccacctccac cagaacattg tggacgtgca gtacttgtac ggggtagggt
2461 caagcatcgc gtcctgggcc attaagtggg agtacgtcgt tctcctgttc cttctgcttg
2521 cagacgcgcg cgtctgctcc tgcttgtgga tgatgttact catatcccaa gcggaggcgg
2581 ctttggagaa cctcgtaata ctcaatgcag catccctggc cgggacgcac ggtcttgtgt
2641 ccttcctcgt gttcttctgc tttgcgtggt atctgaaggg taggtgggtg cccggagcgg
2701 tctacgccct ctacgggatg tggcctctcc tcctgctcct gctggcgttg cctcagcggg
2761 catacgcact ggacacggag gtggccgcgt cgtgtggcgg cgttgttctt gtcgggttaa
2821 tggcgctgac tctgtcgcca tattacaagc gctatatcag ctggtgcatg tggtggcttc
2881 agtattttct gaccagagta gaagcgcaac tgcacgtgtg ggttcccccc ctcaacgtcc
2941 ggggggggcg cgatgccgtc atcttactca tgtgtgtagt acacccgacc ctggtatttg
3001 acatcaccaa actactcctg gccatcttcg gacccctttg gattcttcaa gccagtttgc
3061 ttaaagtccc ctacttcgtg cgcgttcaag gccttctccg gatctgcgcg ctagcgcgga
```

Fig. 13B

```
3121 agatagccgg aggtcattac gtgcaaatgg ccatcatcaa gttaggggcg cttactggca
3181 cctatgtgta taaccatctc acccctcttc gagactgggc gcacaacggc ctgcgagatc
3241 tggccgtggc tgtggaacca gtcgtcttct cccgaatgga gaccaagctc atcacgtggg
3301 gggcagatac cgccgcgtgc ggtgacatca tcaacggctt gcccgtctct gcccgtaggg
3361 gccaggagat actgcttggg ccagccgacg gaatggtctc caaggggtgg aggttgctgg
3421 cgcccatcac ggcgtacgcc cagcagacga gaggcctcct agggtgtata atcaccagcc
3481 tgactggccg ggacaaaaac caagtggagg gtgaggtcca gatcgtgtca actgctaccc
3541 aaaccttcct ggcaacgtgc atcaatgggg tatgctggac tgtctaccac ggggccggaa
3601 cgaggaccat cgcatcaccc aagggtcctg tcatccagat gtataccaat gtggaccaag
3661 accttgtggg ctggcccgct cctcaaggtt cccgctcatt gacaccctgt acctgcggct
3721 cctcggacct ttacctggtc acgaggcacg ccgatgtcat tcccgtgcgc cggcgaggtg
3781 atagcagggg tagcctgctt tcgccccggc ccatttccta cttgaaaggc tcctcggggg
3841 gtccgctgtt gtgccccgcg ggacacgccg tgggcctatt cagggccgcg gtgtgcaccc
3901 gtggagtggc taaagcggtg gactttatcc ctgtggagaa cctagggaca accatgagat
3961 ccccggtgtt cacggacaac tcctctccac cagcagtgcc ccagagcttc caggtggccc
4021 acctgcatgc tcccaccggc agcggtaaga gcaccaaggt cccggctgcg tacgcagccc
4081 agggctacaa ggtgttggtg ctcaacccct ctgttgctgc aacgctgggc tttggtgctt
4141 acatgtccaa ggcccatggg gttgatccta atatcaggac cggggtgaga acaattacca
4201 ctggcagccc catcacgtac tccacctacg gcaagttcct tgccgacggc gggtgctcag
4261 gaggtgctta tgacataata atttgtgacg agtgccactc cacggatgcc acatccatct
4321 tgggcatcgg cactgtcctt gaccaagcag agactgcggg ggcgagactg gttgtgctcg
4381 ccactgctac ccctccgggc tccgtcactg tgtcccatcc taacatcgag gaggttgctc
4441 tgtccaccac cggagagatc ccctttacg gcaaggctat ccccctcgag gtgatcaagg
4501 ggggaagaca tctcatcttc tgccactcaa agaagaagtg cgacgagctc gccgcgaagc
4561 tggtcgcatt gggcatcaat gccgtggcct actaccgcgg tcttgacgtg tctgtcatcc
4621 cgaccagcgg cgatgttgtc gtcgtgtcga ccgatgctct catgactggc tttaccggcg
4681 acttcgactc tgtgatagac tgcaacacgt gtgtcactca gacagtcgat ttcagccttg
4741 accctacctt taccattgag acaaccacgc tcccccagga tgctgtctcc aggactcaac
4801 gccggggcag gactggcagg gggaagccag gcatctatag atttgtggca ccgggggagc
4861 gcccctccgg catgttcgac tcgtccgtcc tctgtgagtg ctatgacgcg ggctgtgctt
4921 ggtatgagct cacgcccgcc gagactacag ttaggctacg agcgtacatg aacacccggg
4981 ggcttcccgt gtgccaggac catcttgaat tttgggaggg cgtctttacg ggcctcactc
5041 atatagatgc ccacttttta tcccagacaa agcagagtgg ggagaacttt ccttacctgg
5101 tagcgtacca agccaccgtg tgcgctaggg ctcaagcccc tcccccatcg tgggaccaga
5161 tgtggaagtg tttgatccgc cttaaaccca ccctccatgg gccaacaccc ctgctataca
5221 gactgggcgc tgttcagaat gaagtcaccc tgacgcaccc aatcaccaaa tacatcatga
5281 catgcatgtc ggccgacctg gaggtcgtca cgagcacctg ggtgctcgtt ggcggcgtcc
5341 tggctgctct ggccgcgtat tgcctgtcaa caggctgcgt ggtcatagtg ggcaggatcg
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5461 agatggaaga gtgctctcag cacttaccgt acatcgagca agggatgatg ctcgctgagc
5521 agttcaagca gaaggccctc ggcctcctgc agaccgcgtc ccgccatgca gaggttatca
5581 cccctgctgt ccagaccaac tggcagaaac tcgaggtctt ttgggcgaag cacatgtgga
5641 atttcatcag tgggatacaa tacttggcgg gcctgtcaac gctgcctggt aaccccgcca
5701 ttgcttcatt gatggctttt acagctgccg tcaccagccc actaaccact ggccaaaccc
5761 tcctcttcaa catattgggg gggtgggtgg ctgcccagct cgccgccccc ggtgccgcta
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5881 tcctcgtgga cattcttgca gggtatggcg cgggcgtggc gggagctctt gtagcattca
5941 agatcatgag cggtgaggtc ccctccacgg aggacctggt caatctgctg cccgccatcc
6001 tctcgcctgg agcccttgta gtcggtgtgg tctgcgcagc aatactgcgc cggcacgttg
6061 gcccgggcga gggggcagtg caatggatga accggctaat agccttcgcc tcccggggga
6121 accatgtttc ccccacgcac tacgtgccgg agagcgatgc agccgcccgc gtcactgcca
6181 tactcagcag cctcactgta acccagctcc tgaggcgact gcatcagtgg ataagctcgg
6241 agtgtaccac tccatgctcc ggttcctggc taagggacat ctgggactgg atatgcgagg
6301 tgctgagcga ctttaagacc tggctgaaag ccaagctcat gccacaactg cctgggattc
6361 cctttgtgtc ctgccagcgc gggtataggg gggtctggcg aggagacggc attatgcaca
6421 ctcgctgcca ctgtggagct gagatcactg gacatgtcaa aaacgggacg atgaggatcg
6481 tcggtcctag gacctgcagg aacatgtgga gtgggacgtt ccccattaac gcctacacca
```

Fig. 13C

```
6541 cgggcccctg tactcccctt cctgcgccga actataagtt cgcgctgtgg agggtgtctg
6601 cagaggaata cgtggagata aggcgggtgg gggacttcca ctacgtatcg ggtatgacta
6661 ctgacaatct taaatgcccg tgccagatcc catcgcccga atttttcaca gaattggacg
6721 gggtgcgcct acacaggttt gcgccccctt gcaagccctt gctgcgggag gaggtatcat
6781 tcagagtagg actccacgag tacccggtgg ggtcgcaatt accttgcgag cccgaaccgg
6841 acgtagccgt gttgacgtcc atgctcactg atccctccca tataacagca gaggcggccg
6901 ggagaaggtt ggcgagaggg tcacccccct ctatggccag ctcctcggct agccagctgt
6961 ccgctccatc tctcaaggca acttgcaccg ccaaccatga ctcccctgac gccgagctca
7021 tagaggctaa cctcctgtgg aggcaggaga tgggcggcaa catcaccagg gttgagtcag
7081 agaacaaagt ggtgattctg gactccttcg atccgcttgt ggcagaggag gatgagcggg
7141 aggtctccgt acctgcagaa attctgcgga agtctcggag attcgcccgg gccctgcccg
7201 tctgggcgcg gccggactac aacccccccgc tagtagagac gtggaaaaag cctgactacg
7261 aaccacctgt ggtccatggc tgcccgctac cacctccacg gtcccctcct gtgcctccgc
7321 ctcggaaaaa gcgtacggtg gtcctcaccg aatcaaccct atctactgcc ttggccgagc
7381 ttgccaccaa aagttttggc agctcctcaa cttccggcat tacgggcgac aatacgacaa
7441 catcctctga gcccgccccct tctggctgcc cccccgactc cgacgttgag tcctattctt
7501 ccatgccccc cctggagggg gagcctgggg atccggatct cagcgacggg tcatggtcga
7561 cggtcagtag tggggccgac acggaagatg tcgtgtgctg ctcaatgtct tattcctgga
7621 caggcgcact cgtcaccccg tgcgctgcgg aagaacaaaa actgcccatc aacgcactga
7681 gcaactcgtt gctacgccat cacaatctgg tgtattccac cacttcacgc agtgcttgcc
7741 aaaggcagaa gaaagtcaca tttgacagac tgcaagttct ggacagccat taccaggacg
7801 tgctcaagga ggtcaaagca gcggcgtcaa aagtgaaggc taacttgcta tccgtagagg
7861 aagcttgcag cctgacgccc ccacattcag ccaaatccaa gtttggctat ggggcaaaag
7921 acgtccgttg ccatgccaga aaggccgtag cccacatcaa ctccgtgtgg aaagaccttc
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8161 tgggaagctc ctacggattc caatactcac caggacagcg ggttgaattc ctcgtgcaag
8221 cgtggaagtc caagaagacc ccgatggggt tctcgtatga tacccgctgt tttgactcca
8281 cagtcactga gagcgacatc cgtacggagg aggcaattta ccaatgttgt gacctggacc
8341 cccaagcccg cgtggccatc aagtccctca ctgagaggct ttatgttggg ggccctctta
8401 ccaattcaag gggggaaaac tgcggctacc gcaggtgccg cgcgagcggc gtactgacaa
8461 ctagctgtgg taacaccctc acttgctaca tcaaggcccg ggcagcctgt cgagccgcag
8521 ggctccagga ctgcaccatg ctcgtgtgtg gcgacgactt agtcgttatc tgtgaaagtg
8581 cgggggtcca ggaggacgcg gcgagcctga gagccttcac ggaggctatg accaggtact
8641 ccgccccccc cggggacccc ccacaaccag aatacgactt ggagcttata acatcatgct
8701 cctccaacgt gtcagtcgcc cacgacggcg ctggaaagag ggtctactac cttacccgtg
8761 accctacaac ccccctcgcg agagccgcgt gggagacagc aagacacact ccagtcaatt
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9121 tccgcgctag gcttctgtcc agaggaggca gggctgccat atgtggcaag tacctcttca
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9421 ttttttttt ttttttttt ttttctttt tttttttctt tcctttcctt ctttttttcc
9481 tttctttttc ccttctttaa tggtggctcc atcttagccc tagtcacggc tagctgtgaa
9541 aggtccgtga gccgcatgac tgcagagagt gctgatactg gcctctctgc agatcatgt
```

Fig. 13D

MSTNPKPQRKTKRNTNRRPQDVKFPGGGQIVGGVYLLPRRGPRL
GVRATRKTSERSQPRGRRQPIPKARRPEGRTWAQPGYPWPLYGNEGCGWAGWLLSPRG
SRPSWGPTDPRRRSRNLGKVIDTLTCGFADLMGYIPLVGAPLGGAARALAHGVRVLED
GVNYATGNLPGCSFSIFLLALLSCLTVPASAYQVRNSSGLYHVTNDCPNSSIVYEAAD
AILHTPGCVPCVREGNASRCWVAVTPTVATRDGKLPTTQLRRHIDLLVGSATLCSALY
VGDLCGSVFLVGQLFTFSPRRHWTTQDCNCSIYPGHITGHRMAWDMMMNWSPTAALVV
AQLLRIPQAIMDMIAGAHWGVLAGIAYFSMVGNWAKVLVVLLLFAGVDAETHVTGGNA
GRTTAGLVGLLTPGAKQNIQLINTNGSWHINSTALNCNESLNTGWLAGLFYQHKFNSS
GCPERLASCRRLTDFAQGWGPISYANGSGLDERPYCWHYPPRPCGIVPAKSVCGPVYC
FTPSPVVVGTTDRSGAPTYSWGANDTDVFVLNNTRPPLGNWFGCTWMNSTGFTKVCGA
PPCVIGGVGNNTLLCPTDCFRKHPEATYSRCGSGPWITPRCMVDYPYRLWHYPCTINY
TIFKVRMYVGGVEHRLEAACNWTRGERCDLEDRDRSELSPLLLSTTQWQVLPCSFTTL
PALSTGLIHLHQNIVDVQYLYGVGSSIASWAIKWEYVVLLFLLLADARVCSCLWMMLL
ISQAEAALENLVILNAASLAGTHGLVSFLVFFCFAWYLKGRWVPGAVYALYGMWPLLL
LLLALPQRAYALDTEVAASCGGVVLVGLMALTLSPYYKRYISWCMWWLQYFLTRVEAQ
LHVWVPPLNVRGGRDAVILLMCVVHPTLVFDITKLLLAIFGPLWILQASLLKVPYFVR
VQGLLRICALARKIAGGHYVQMAIIKLGALTGTYVYNHLTPLRDWAHNGLRDLAVAVE
PVVFSRMETKLITWGADTAACGDIINGLPVSARRGQEILLGPADGMVSKGWRLLAPIT
AYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTATQTFLATCINGVCWTVYHGAGTR
TIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVRRRG
DSRGSLLSPRPISYLKGSSGGPLLCPAGHAVGLFRAAVCTRGVAKAVDFIPVENLGTT
MRSPVFTDNSSPPAVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATL
GFGAYMSKAHGVDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHS
TDATSILGIGTVLDQAETAGARLVVLATATPPGSVTVSHPNIEEVALSTTGEIPFYGK
AIPLEVIKGGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPTSGDVVVVS
TDALMTGFTGDFDSVIDCNTCVTQTVDFSLDPTFTIETTTLPQDAVSRTQRRGRTGRG
KPGIYRFVAPGERPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQ
DHLEFWEGVFTGLTHIDAHFLSQTKQSGENFPYLVAYQATVCARAQAPPPSWDQMWKC
LIRLKPTLHGPTPLLYRLGAVQNEVTLTHPITKYIMTCMSADLEVVTSTWVLVGGVLA

Fig. 13E

ALAAYCLSTGCVVIVGRIVLSGKPAIIPDREVLYQEFDEMEECSQHLPYIEQGMMLAE
QFKQKALGLLQTASRHAEVITPAVQTNWQKLEVFWAKHMWNFISGIQYLAGLSTLPGN
PAIASLMAFTAAVTSPLTTGQTLLFNILGGWVAAQLAAPGAATAFVGAGLAGAAIGSV
GLGKVLVDILAGYGAGVAGALVAFKIMSGEVPSTEDLVNLLPAILSPGALVVGVVCAA
ILRRHVGPGEGAVQWMNRLIAFASRGNHVSPTHYVPESDAAARVTAILSSLTVTQLLR
RLHQWISSECTTPCSGSWLRDIWDWICEVLSDFKTWLKAKLMPQLPGIPFVSCQRGYR
GVWRGDGIMHTRCHCGAEITGHVKNGTMRIVGPRTCRNMWSGTFPINAYTTGPCTPLP
APNYKFALWRVSAEEYVEIRRVGDFHYVSGMTTDNLKCPCQIPSPEFFTELDGVRLHR
FAPPCKPLLREEVSFRVGLHEYPVGSQLPCEPEPDVAVLTSMLTDPSHITAEAAGRRL
ARGSPPSMASSSASQLSAPSLKATCTANHDSPDAELIEANLLWRQEMGGNITRVESEN
KVVILDSFDPLVAEEDEREVSVPAEILRKSRRFARALPVWARPDYNPPLVETWKKPDY
EPPVVHGCPLPPPRSPPVPPPRKKRTVVLTESTLSTALAELATKSFGSSSTSGITGDN
TTTSSEPAPSGCPPDSDVESYSSMPPLEGEPGDPDLSDGSWSTVSSGADTEDVVCCSM
SYSWTGALVTPCAAEEQKLPINALSNSLLRHHNLVYSTTSRSACQRQKKVTFDRLQVL
DSHYQDVLKEVKAAASKVKANLLSVEEACSLTPPHSAKSKFGYGAKDVRCHARKAVAH
INSVWKDLLEDSVTPIDTTIMAKNEVFCVQPEKGGRKPARLIVFPDLGVRVCEKMALY
DVVSKLPLAVMGSSYGFQYSPGQRVEFLVQAWKSKKTPMGFSYDTRCFDSTVTESDIR
TEEAIYQCCDLDPQARVAIKSLTERLYVGGPLTNSRGENCGYRRCRASGVLTTSCGNT
LTCYIKARAACRAAGLQDCTMLVCGDDLVVICESAGVQEDAASLRAFTEAMTRYSAPP
GDPPQPEYDLELITSCSSNVSVAHDGAGKRVYYLTRDPTTPLARAAWETARHTPVNSW
LGNIIMFAPTLWARMILMTHFFSVLIARDQLEQALNCEIYGACYSIEPLDLPPIIQRL
HGLSAFSLHSYSPGEINRVAACLRKLGVPPLRAWRHRARSVRARLLSRGGRAAICGKY
LFNWAVRTKLKLTPIAAAGRLDLSGWFTAGYSGGDIYHSVSHARPRWFWFCLLLLAAG
VGIYLLPNR"

Fig. 14A

```
   1 gccagccccc tgatggggc gacactccac catgaatcac tcccctgtga ggaactactg
  61 tcttcacgca gaaagcgtct agccatggcg ttagtatgag tgtcgtgcag cctccaggac
 121 ccccctcccc gggagagcca tagtggtctg cggaaccggt gagtacaccg gaattgccag
 181 gacgaccggg tcctttcttg gataaacccg ctcaatgcct ggagatttgg gcgtgccccc
 241 gcaagactgc tagccgagta gtgttgggtc gcgaaaggcc ttgtggtact gcctgatagg
 301 gtgcttgcga gtgccccggg aggtctcgta gaccgtgcac catgagcacg aatcctaaac
 361 ctcaaagaaa aaccaaacgt aacaccaacc gtcgcccaca ggacgtcaag ttcccgggtg
 421 gcggtcagat cgttggtgga gtttacttgt tgccgcgcag gggccctaga ttgggtgtgc
 481 gcgcgacgag gaagacttcc gagcggtcgc aacctcgagg tagacgtcag cctatcccca
 541 aggcacgtcg gcccgagggc aggacctggg ctcagcccgg gtacccttgg cccctctatg
 601 gcaatgaggg ttgcgggtgg gcgggatggc tcctgtctcc ccgtggctct cggcctagct
 661 ggggccccac agacccccgg cgtaggtcgc gcaatttggg taaggtcatc gataccctta
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 781 ctgccagggc cctggcgcat ggcgtccggg ttctggaaga cggcgtgaac tatgcaacag
 841 ggaaccttcc tggttgctct ttctctatct tccttctggc cctgctctct tgcctgactg
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 961 gccctaactc gagtgttgtg tacgaggcgg ccgatgccat cctgcacact ccggggtgtg
1021 tcccttgcgt tcgcgagggt aacgcctcga ggtgttgggt ggcggtgacc cccacggtgg
1081 ccaccaggga cggcaaactc cccacaacgc agcttcgacg tcatatcgat ctgcttgtcg
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1261 ctatctatcc cggccatata acgggtcatc gcatggcatg gaatatgatg atgaactggt
1321 cccctacggc agcgttggtg gtagctcagc tgctccgaat cccacaagcc atcatggaca
1381 tgatcgctgg cgcccactgg ggagtcctgg cgggcataaa gtatttctcc atggtgggga
1441 actgggcgaa ggtcctggta gtgctgctgc tatttgccgg cgtcgacgcg gaaacccacg
1501 tcaccggggg aaatgccggc cgcaccacgg ctgggcttgt tggtctcctt acacccaggcg
1561 ccaagcagaa catccaactg atcaacacca acggcagttg gcacatcaat agcacggcct
1621 tgaactgcaa tgaaagcctt aacaccggct ggttagcagg gctcttctat cagcacaaat
1681 tcaactcttc aggctgtcct gagaggttgg ccagctgccg acgccttacc gattttgccc
1741 agggctgggg tcctatcagt tatgccaacg gaagcggcct cgacgaacgc ccctactgct
1801 ggcactaccc tccaagacct tgtggcattg tgcccgcaaa gagcgtgtgt ggcccggtat
1861 attgcttcac tcccagcccc gtggtggtgg gaacgaccga caggtcgggc gcgcctacct
1921 acagctgggg tgcaaatgat acggatgtct tcgtccttaa caacaccagg ccaccgctgg
1981 gcaattggtt cggttgtacc tggatgaact caactggatt caccaaagtg tgcggagcgc
2041 ccccttgtgt catcggaggg gtgggcaaca acaccttgct ctgccccact gattgcttcc
2101 gcaaatatcc ggaagccaca tactctcggt gcggctccgg tcccaggatt acacccaggt
2161 gcatggtcga ctacccgtat aggctttggc actatccttg taccatcaat tacaccatat
2221 tcaaagtcag gatgtacgtg ggaggggtcg agcacaggct ggaagcggcc tgcaactgga
2281 cgcggggcga acgctgtgat ctggaagaca gggacaggtc cgagctcagc ccgttgctgc
2341 tgtccaccac acagtggcag gtccttccgt gttctttcac gaccctgcca gccttgtcca
2401 ccggcctcat ccacctccac cagaacattg tggacgtgca gtacttgtac ggggtagggt
2461 caagcatcgc gtcctgggcc attaagtggg agtacgtcgt tctcctgttc cttctgcttg
2521 cagacgcgcg cgtctgttcc tgcttgtgga tgatgttact catatcccaa gcggaggcgg
2581 ctttggagaa cctcgtaata ctcaatgcag catccctggc cgggacgcat ggtcttgtgt
2641 ccttcctcgt gttcttctgc tttgcgtggt atctgaaggg taggtgggtg cccggagcgg
2701 tctacgccct ctacgggatg tggcctctcc tcctgctcct gctggcgttg cctcagcggg
2761 catacgcact ggacacggag gtggccgcgt cgtgtggcgg cgttgttctt gtcgggttaa
2821 tggcgctgac tctgtcgcca tattacaagc gctatatcag ctggtgcatg tggtggcttc
2881 agtattttct gaccagagta gaagcgcaac tgcacgtgtg ggttcccccc ctcaacgtcc
2941 ggggggggcg cgatgccgtc atcttactca cgtgtgtagt acacccggcc ctggtatttg
3001 acatcaccaa actactcctg gccatcttcg gacccctttg gattcttcaa gccagtttgc
3061 ttaaagtccc ctacttcgtg cgcgttcaag gccttctccg gatctgcgcg ctagcgcgga
```

Fig. 14B

```
3121 agatagccgg aggtcattac gtgcaaatgg ccatcatcaa gttaggggcg cttactggca
3181 cctgtgtgta taaccatctc gctcctcttc gagactgggc gcacaacggc ctgcgagatc
3241 tggccgtggc tgtggaacca gtcgtcttct cccgaatgga gaccaagctc atcacgtggg
3301 gggcagatac cgccgcgtgc ggtgacatca tcaacggctt gcccgtctct gcccgtaggg
3361 gccaggagat actgcttggg ccagccgacg gaatggtctc caaggggtgg aggttgctgg
3421 cgcccatcac ggcgtacgcc cagcagacga gaggcctcct agggtgtata atcaccagcc
3481 tgactggccg ggacaaaaac caagtggagg gtgaggtcca gatcgtgtca actgctaccc
3541 agaccttcct ggcaacgtgc atcaatgggg tatgctggac tgtctaccac ggggccggaa
3601 cgaggaccat cgcatcaccc aagggtcctg tcatccagac gtataccaat gtggatcaag
3661 acctcgtggg ctggcccgct cctcaaggtt cccgctcatt gacaccctgc acctgcggct
3721 cctcggacct ttacctggtc acgaggcacg ccgatgtcat tcccgtgcgc cggcgaggtg
3781 atagcagggg tagcctgctt tcgccccggc ccatttccta cttgaaaggc tcctcggggg
3841 gtccgctgtt gtgccccacg ggacacgccg tgggcctatt cagggccgcg gtgtgcaccc
3901 gtggagtggc taaggcggtg gactttatcc ctgtggagaa cctagagaca accatgagat
3961 ccccggtgtt cacggacaac tcctctccac cagcagtgcc ccagagcttc caggtggccc
4021 acctgcatgc tcccaccggc agcggtaaga gcaccaaggt cccggctgcg tacgcagcca
4081 agggctacaa ggtgttggtg ctcaaccccct ctgttgctgc aacactgggc tttggtgctt
4141 acatgtccaa ggcccatggg gttgatccta atatcaggac cggggtgaga acaattacca
4201 ctggcagccc catcacgtac tccacctacg gcaagttcct tgccgacgcc gggtgctcag
4261 gaggtgctta tgacataata atttgtgacg agtgccactc cacggatgcc acatccatct
4321 cgggcatcgg cactgtcctt gaccaagcag agactgcggg ggcgagactg gttgtgctcg
4381 ccactgctac ccctccgggc tccgtcactg tgtcccatcc taacatcgag gaggttgctc
4441 tgtccaccac cggagagatc ccctttttacg gcaaggctat ccccctcgag gtgatcaagg
4501 ggggaagaca tctcatcttc tgccactcaa agaagaagtg cgacgagctc gccgcgaagc
4561 tggtcgcatt gggcatcaat gccgtggcct actaccgcgg tcttgacgtg tctgtcatcc
4621 cgaccagcgg cgatgttgtc gtcgtgtcga ccgatgctct catgactggc tttaccggcg
4681 acttcgactc tgtgatagac tgcaacacgt gtgtcactca gacagtcgat tttagccttg
4741 accctacctt taccattgag acaaccacgc tcccccagga tgctgtctcc aggactcaac
4801 gccggggcag gactggcagg gggaagccag gcatctatag atttgtggca ccgggggagc
4861 gcccctccgg catgttcgac tcgtccgtcc tctgtgagtg ctatgacgcg ggctgtgctt
4921 ggtatgagct cacgcccgcc gagactacag ttaggctacg agcgtacatg aacaccccgg
4981 ggcttcccgt gtgccaggac catcttggat tttgggaggg cgtctttacg ggcctcactc
5041 atatagatgc ccactttcta tcccagacaa agcagagtgg ggagaacttt ccttacctgg
5101 tagcgtacca agccaccgtg tgcgctaggg ctcaagcccc tcccccatcg tgggaccaga
5161 tgcggaagtg tttgatccgc cttaaaccca ccctccatgg gccaacaccc ctgctataca
5221 gactgggcgc tgttcagaat gaagtcaccc tgacgcaccc aatcaccaaa tacatcatga
5281 catgcatgtc ggccgacctg gaggtcgtca cgagcacctg ggtgctcgtt ggcggcgtcc
5341 tggctgctct ggccgcgtat tgcctgtcaa caggctgcgt ggtcatagtg ggcaggatcg
5401 tcttgtccgg gaagccggca attatacctg acagggaggt tctctaccag gagttcgatg
5461 agatggaaga gtgctctcag cacttaccgt acatcgagca agggatgatg ctcgctgagc
5521 agttcaagca gaaggccctc ggcctcctgc agaccgcgtc ccgccatgca gaggttatca
5581 cccctgctgt ccagaccaac tggcagaaac tcgaggtctt ttgggcgaag cacatgtgga
5641 atttcatcag tgggatacaa tacttggcgg gcctgtcaac gctgcctggt aaccccgcca
5701 ttgcttcatt gatggctttt acagctgccg tcaccagccc actaaccact ggccaaaccc
5761 tcctcttcaa catattgggg gggtgggtgg ctgcccagct cgccgccccc ggtgccgcta
5821 ccgcctttgt gggcgctggc ttagctggcg ccgcactcga cagcgttgga ctggggaagg
5881 tcctcgtgga cattcttgca ggctatggcg cgggcgtggc gggagctctt gtggcattca
5941 agatcatgag cggtgaggtc ccctccacgg aggacctggt caatctgctg cccgccatcc
6001 tctcacctgg agcccttgca gtcggtgtgg tctttgcatc aatactgcgc cggcgtgttg
6061 gcccgggcga gggggcagtg caatggatga accggctaat agccttcgcc tcccgggggа
6121 accatgtttc ccccacacac tacgtgccgg agagcgatgc agccgcccgc gtcactgcca
6181 tactcagcag cctcactgta acccagctcc tgaggcgact gcatcagtgg ataagctcgg
6241 agtgtaccac tccatgctcc ggttcctggc taagggacat ctgggactgg atatgcgagg
6301 tgctgagcga ctttaagacc tggctgaaag ccaagctcat gccacaactg cctgggattc
6361 cctttgtgtc ctgccagcgc gggtataggg gggtctggcg aggagacggc attatgcaca
6421 ctcgctgcca ctgtggagct gagatcactg gacatgtcaa aaacgggacg atgaggatcg
6481 tcggtcctag gacctgcaag aacatgtgga gtgggacgtt cttcattaat gcctacacca
```

Fig. 14C

```
6541 cgggcccctg tactcccctt cctgcgccga actataagtt cgcgctgtgg agggtgtctg
6601 cagaggaata cgtggagata aggcgggtgg gggacttcca ctacgtatcg ggcatgacta
6661 ctgacaatct caaatgcccg tgccagatcc catcgcccga atttttcaca gaattggacg
6721 gggtgcgcct acataggttt gcgccccctt gcaagccctt gctgcgggag gaggtatcat
6781 tcagagtagg actccacgag tacccggtgg ggtcgcaatt accttgcgag cccgaaccgg
6841 acgtagccgt gttgacgtcc atgctcactg atccctccca tataacagca gaggcggccg
6901 ggagaaggtt ggcgagaggg tcacccccct ctatggccag ctcctcggct agccagctgt
6961 ccgctccatc tctcaaggca acttgcaccg ccaaccatga ctcccctgac gccgagctca
7021 tagaggctaa cctcctgtgg aggcaggaga tgggcggcaa catcaccagg gttgagtcag
7081 agaacaaagt ggtgattctg gactccttcg atccgcttgt ggcagaggag gatgagcggg
7141 aggtctccgt acccgcagaa attctgcgga agtctcggag attcgcccca gccctgcccg
7201 tctgggcgcg gccggactac aacccccctgc tagtagagac gtggaaaaag cctgactacg
7261 aaccacctgt ggtccatggc tgcccgctac cacctccacg gtcccctcct gtgcctccgc
7321 ctcggaaaaa gcgtacggtg gtcctcaccg aatcaaccct acctactgcc ttggccgagc
7381 ttgccaccaa aagttttggc agctcctcaa cttccggcat tacgggcgac aatacgacaa
7441 catcctctga gcccgcccct tctggctgcc cccccgactc cgacgttgag tcctattctt
7501 ccatgccccc cctggagggg gagcctgggg atccggatct cagcgacggg tcatggtcga
7561 cggtcagtag tggggccgac acggaagatg tcgtgtgctg ctcaatgtct tattcctgga
7621 caggcgcact cgtcaccccg tgcgctgcgg aggaacaaaa actgcccatc aacgcactga
7681 gcaactcgtt gctacgccat cacaatctgg tgtattccac cacttcacgc agtgcttgcc
7741 aaaggaagaa gaaagtcaca tttgacagac tgcaagttct ggacagccat taccaggacg
7801 tgctcaagga ggtcaaagca gcggcgtcaa aagtgaaggc taacttgcta tccgtagagg
7861 aagcttgcag cctggcgccc ccacattcag ccaaatccaa gtttggctat ggggcaaaag
7921 acgtccgttg ccatgccaga aaggccgtag cccacatcaa ctccgtgtgg aaagaccttc
7981 tggaagacag tgtaacacca atagacacta ccatcatggc caagaacgag gttttctgcg
8041 ttcagcctga gaaggggggt cgtaagccag ctcgtctcat cgtgttcccc gacctgggcg
8101 tgcgcgtgtg cgagaagatg gccctgtacg acgtggttag caagctcccc ttggccgtga
8161 tgggaagctc ctacggattc caatactcac caggacagcg ggttgaattc ctcgtgcaag
8221 cgtggaagtc caagaagacc ccgatggggc tctcgtatga tacccgctgt tttgactcca
8281 cagtcactga gagcgacatc cgtacggagg aggcaattta ccaatgttgt gacctggacc
8341 cccaagcccg cgtggccatc aagtccctca ctgagaggct ttatgttggg ggccctctta
8401 ctaattcaag gggggaaaac tgcggctacc gcaggtgccg cgcgagcaga gtactgacaa
8461 ctagctgtgg taacaccctc actcgctaca tcaaggcccg ggcagcctgt cgagccgcag
8521 ggctccagga ctgcaccatg ctcgtgtgtg gcgacgactt agtcgttatc tgtgaaagtg
8581 cgggggtcca ggaggacgcg gcgagcctga gagccttcac ggaggctatg accaggtact
8641 ccgccccccc cggggacccc ccacaaccag aatacgactt ggagcttata acatcatgct
8701 cctccaacgt gtcagtcgcc cacgacggcg ctggaaagag ggtctactac cttacccgtg
8761 accctacaac ccccctcgcg agagccgcgt gggagacagc aagacacact ccagtcaatt
8821 cctggctagg caacataatc atgtttgccc ccacactgtg ggcgaggatg atactgatga
8881 cccacttctt tagcgtcctc atagccaggg atcagcttga acaggctctc aactgcgaga
8941 tctacggagc ctgctactcc atagaaccac tggatctacc tccaatcatt caaagactcc
9001 atggcctcag cgcattttca ctccacagtt actctccagg tgaaattaat agggtggccg
9061 catgcctcag aaaacttggg gtcccgccct tgcgagcttg gagacaccgg gcctggagcg
9121 tccgcgctag gcttctggcc agaggaggca aggctgccat atgtggcaag tacctcttca
9181 actgggcagt aagaacaaag ctcaaactca ctccgataac ggccgctggc cggctggact
9241 tgtccggctg gttcacggct ggctacagcg ggggagacat ttatcacagc gtgtctcatg
9301 cccggccccg ctggttctgg ttttgcctac tcctgcttgc tgcaggggta ggcatctacc
9361 tcctccccaa ccgatgaaga ttgggctaac cactccaggc caataggcca ttccct
```

Fig. 14D

MSTNPKPQRKTKRNTNRRPQDVKFPGGGQIVGGVYLLPRRGPRL
GVRATRKTSERSQPRGRRQPIPKARRPEGRTWAQPGYPWPLYGNEGCGWAGWLLSPRG
SRPSWGPTDPRRRSRNLGKVIDTLTCGFADLMGYIPLVGAPLGGAARALAHGVRVLED
GVNYATGNLPGCSFSIFLLALLSCLTVPASAYQVRNSSGLYHVTNDCPNSSVVYEAAD
AILHTPGCVPCVREGNASRCWVAVTPTVATRDGKLPTTQLRRHIDLLVGSATLCSALY
VGDLCGSVFLVGQLFTFSPRHHWTTQDCNCSIYPGHITGHRMAWNMMMNWSPTAALVV
AQLLRIPQAIMDMIAGAHWGVLAGIKYFSMVGNWAKVLVVLLLFAGVDAETHVTGGNA
GRTTAGLVGLLTPGAKQNIQLINTNGSWHINSTALNCNESLNTGWLAGLFYQHKFNSS
GCPERLASCRRLTDFAQGWGPISYANGSGLDERPYCWHYPPRPCGIVPAKSVCGPVYC
FTPSPVVVGTTDRSGAPTYSWGANDTDVFVLNNTRPPLGNWFGCTWMNSTGFTKVCGA
PPCVIGGVGNNTLLCPTDCFRKYPEATYSRCGSGPRITPRCMVDYPYRLWHYPCTINY
TIFKVRMYVGGVEHRLEAACNWTRGERCDLEDRDRSELSPLLLSTTQWQVLPCSFTTL
PALSTGLIHLHQNIVDVQYLYGVGSSIASWAIKWEYVVLLFLLLADARVCSCLWMMLL
ISQAEAALENLVILNAASLAGTHGLVSFLVFFCFAWYLKGRWVPGAVYALYGMWPLLL
LLLALPQRAYALDTEVAASCGGVVLVGLMALTLSPYYKRYISWCMWWLQYFLTRVEAQ
LHVWVPPLNVRGGRDAVILLTCVVHPALVFDITKLLLAIFGPLWILQASLLKVPYFVR
VQGLLRICALARKIAGGHYVQMAIIKLGALTGTCVYNHLAPLRDWAHNGLRDLAVAVE
PVVFSRMETKLITWGADTAACGDIINGLPVSARRGQEILLGPADGMVSKGWRLLAPIT
AYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTATQTFLATCINGVCWTVYHGAGTR
TIASPKGPVIQTYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVRRRG
DSRGSLLSPRPISYLKGSSGGPLLCPTGHAVGLFRAAVCTRGVAKAVDFIPVENLETT
MRSPVFTDNSSPPAVPQSFQVAHLHAPTGSGKSTKVPAAYAAKGYKVLVLNPSVAATL
GFGAYMSKAHGVDPNIRTGVRTITTGSPITYSTYGKFLADAGCSGGAYDIIICDECHS
TDATSISGIGTVLDQAETAGARLVVLATATPPGSVTVSHPNIEEVALSTTGEIPFYGK
AIPLEVIKGGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPTSGDVVVVS
TDALMTGFTGDFDSVIDCNTCVTQTVDFSLDPTFTIETTTLPQDAVSRTQRRGRTGRG
KPGIYRFVAPGERPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQ
DHLGFWEGVFTGLTHIDAHFLSQTKQSGENFPYLVAYQATVCARAQAPPPSWDQMRKC
LIRLKPTLHGPTPLLYRLGAVQNEVTLTHPITKYIMTCMSADLEVVTSTWVLVGGVLA

Fig. 14E

ALAAYCLSTGCVVIVGRIVLSGKPAIIPDREVLYQEFDEMEECSQHLPYIEQGMMLAE
QFKQKALGLLQTASRHAEVITPAVQTNWQKLEVFWAKHMWNFISGIQYLAGLSTLPGN
PAIASLMAFTAAVTSPLTTGQTLLFNILGGWVAAQLAAPGAATAFVGAGLAGAALDSV
GLGKVLVDILAGYGAGVAGALVAFKIMSGEVPSTEDLVNLLPAILSPGALAVGVVFAS
ILRRRVGPGEGAVQWMNRLIAFASRGNHVSPTHYVPESDAAARVTAILSSLTVTQLLR
RLHQWISSECTTPCSGSWLRDIWDWICEVLSDFKTWLKAKLMPQLPGIPFVSCQRGYR
GVWRGDGIMHTRCHCGAEITGHVKNGTMRIVGPRTCKNMWSGTFFINAYTTGPCTPLP
APNYKFALWRVSAEEYVEIRRVGDFHYVSGMTTDNLKCPCQIPSPEFFTELDGVRLHR
FAPPCKPLLREEVSFRVGLHEYPVGSQLPCEPEPDVAVLTSMLTDPSHITAEAAGRRL
ARGSPPSMASSSASQLSAPSLKATCTANHDSPDAELIEANLLWRQEMGGNITRVESEN
KVVILDSFDPLVAEEDEREVSVPAEILRKSRRFAPALPVWARPDYNPLLVETWKKPDY
EPPVVHGCPLPPPRSPPVPPPRKKRTVVLTESTLPTALAELATKSFGSSSTSGITGDN
TTTSSEPAPSGCPPDSDVESYSSMPPLEGEPGDPDLSDGSWSTVSSGADTEDVVCCSM
SYSWTGALVTPCAAEEQKLPINALSNSLLRHHNLVYSTTSRSACQRKKKVTFDRLQVL
DSHYQDVLKEVKAAASKVKANLLSVEEACSLAPPHSAKSKFGYGAKDVRCHARKAVAH
INSVWKDLLEDSVTPIDTTIMAKNEVFCVQPEKGGRKPARLIVFPDLGVRVCEKMALY
DVVSKLPLAVMGSSYGFQYSPGQRVEFLVQAWKSKKTPMGLSYDTRCFDSTVTESDIR
TEEAIYQCCDLDPQARVAIKSLTERLYVGGPLTNSRGENCGYRRCRASRVLTTSCGNT
LTRYIKARAACRAAGLQDCTMLVCGDDLVVICESAGVQEDAASLRAFTEAMTRYSAPP
GDPPQPEYDLELITSCSSNVSVAHDGAGKRVYYLTRDPTTPLARAAWETARHTPVNSW
LGNIIMFAPTLWARMILMTHFFSVLIARDQLEQALNCEIYGACYSIEPLDLPPIIQRL
HGLSAFSLHSYSPGEINRVAACLRKLGVPPLRAWRHRAWSVRARLLARGGKAAICGKY
LFNWAVRTKLKLTPITAAGRLDLSGWFTAGYSGGDIYHSVSHARPRWFWFCLLLLAAG
VGIYLLPNR"

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